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12

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14



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CONTENTS		PAGE		
Editorial Notes		1	Liverpool University Veterinary Medical Society	4
Pyelo-nephritis in a Foal, by W. R. Davis, M.R.C.V.S.	1	1	Presidential Address, by J. P. Heyes, F.R.C.V.S.	6
Unusual Susceptibility to Cocaine by R. S. Little, D. Starkey	2	2	Diseases of Animals: Summary of Returns	9, 13
Empirical Therapeutics, by J. G.	2	2	South Durham and North Yorkshire V M	9
Abstracts—The Influence of the Pineal Gland upon the Genital Organs; The Question of "Paternal" Tuberculosis; Basedow's Disease (Exophthalmic Goitre) in the Dog	3	3	Pituitrin in Obstetric Medicine	12
			Parliamentary	12
			The Incidence of Tuberculosis in Cattle	14
			Notes; Army; Personal; Obituary	
			Correspondence—Inspectors' Fees	16

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Yorkshire, and N. Midland V.A.

A COMBINED Meeting of the Yorkshire and North Midland Veterinary Association will be held at the Town Hall, Sheffield, on July 18th, at 11-30 a.m. An Address will be given on "The Present-day Veterinary Surgeon and his Successor," by Principal O. C. Bradley, Edinburgh.

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THE VETERINARY RECORD

Index: July 1913 to June 1914.

Abattoir at Belfast, New	195	Annual report of V. Inspector, Newcastle-on-Tyne, 1912	302	A peculiar shiverer	W. Waters	185					
Abdominal lesion	R. F. Stirling	386	T. Parker	302	A point in diagnosis	197					
Abdominal wound with injury of intestine in a horse, Ludwig Gruber	372	Annual report on Public Health in the City of Dublin, 1912	334	Appendicectomy—Function of the cæcum	W. Stapley	714					
Abnormalities met with by the Cryptorchid operator, F. Hobday	378	Annual report Punjab Vety. College	350	Appointments abroad		737					
Abnormal phalanges in cow	J. A. Jordan	127	Col. H. T. Pease	350	A puzzle in lameness	354, 370					
Abortion bacillus, Persistence of	387	Annual report C.V.D. Punjab	396	Are Registered Existing Veterinary Practitioners Veterinary Surgeons	55						
Abortion in sheep	401	Lt.-Col. J. Farmer	396	ARMY VETERINARY SERVICE.							
About Congresses	165, 167	Annual report on Government Cattle Farm, Hissar	397	Gazettes—							
Abscesses in inguinal glands as mechanical obstruction F. Hopfe	435	Annual report Bengal Veterinary College, 1912	578	16, 36, 52, 88, 103, 150, 210, 243, 259, 279, 311, 324, 351, 368, 383, 399, 415, 432, 448, 468, 484, 499, 524, 540, 556, 586, 604, 624, 639, 652, 668, 717, 736, 751, 784, 811, 828.							
Accidental division of tendons of hind limb in ox	P. Herbet	39	Annual report of C.V.S. Southern Rhodesia, 1912	J. M. Sinclair	405						
Accredited Vet. Colleges, U.S.A.	299	Annual report of Director of Abattoir and LiveStock Market, Johannesburg, 1912-13	565	Director General—alteration of term	36						
Acid-fast bacilli in milk	Prof. Beattie	4	Lt.-Col. J. Irvine Smith	565	Stampede of horses at Aldershot	67					
Acne, Etiology of	L. Rimpl	754	Annual report C.V.D. Bengal, 1912-13	P. J. Kerr	579	The Price of Army horses	150				
Action for loss of a mare—contagion	118	Annual report of C.V.O. Board of Agriculture, 1912	641	Mange at Woolwich	243	Treatment of horses at the recent manoeuvres	338				
A dangerous dog	636	1913	813, 829	Purchase of Army horses	523	Annual dinner	841				
Addresses wanted	135	Annual report of V.S. to the Corporation of the City of Glasgow	790	Arsenical compounds, New	468	Arsenical poisoning, Magnesium sulphate an antidote to, D. Sieber	629				
A disputed account	793	Annual report of the Vety. Dept. of the Government of the Gold Coast, 1912	801	" Armagh Disease," The	653	Asepsis	589				
Advance in Crystallography	783	Annual report of the Brown Institution	817	As good as a V.S.	136	A " Side-issue " in surgery	571				
Agitation of culture media, Effect of on the growth of bacilli, A. Lucet	754	An offer	483	Aspergillus Fumigatus poisons	20	Association of Veterinary Inspectors	37, 53, 69				
Alkaloids, The spectrum of	704	Another peculiar case	(54), 93	A starvation offer	294	A suggestion for Mr. Shipley	228				
Alleged breach of warranty	290	Anthrax, Diagnosis of, with aid of the bone marrow	74	Atoxyl in malignant catarrhal fever of the ox	450	A treatment for choking	668				
Alleged Negligence; verdict for V.S.	806	Anthrax in Elephants G. G. Howard	69	Atresia vaginæ hymenalis	Schenkl	200	Atropine in sea sickness				
Alopecia toxica	Capt. J. R. Hodgkins	625	— bacillus, Toxin formation by the	A. Marxer	74	A twin foetus	J. W. Conchie	486			
A milk consumer's complaint	323	— bacilli in saliva of an affected horse	J. G. T. Arntz	217	Autogenous vaccines	W. W. Lang	435				
A monstrosity (illus.)	372	— in the horse	W. J. Moody	245	Auto-serotherapy in Equine pleurisy	74	Auto-serotherapy in veterinary ophthalmology	Pruneau	606		
Amputation of everted bladder in a mare	Prof. Coquot	451	— Treatment of	320	Bacon at the Dairy Show, Trophy for	242	Bacteria carried by the common house fly	G. L. Cox;			
Amputation of limb in a cow	P. Meikle	230	— at Bradford	319	F. C. Lewis; E. E. Glynn	231	J. H. Pain; F. W. Thomson	232	Bacterial toxicity, Augmentation of by distilled water	713	
—	260	— at Denton	571	— and emergency slaughter	E. J. Burndred	769	Banquet to Mr. T. D. Young	431	Barium nitrate, Poisoning by	230	
An agent for use against rats	H. Novak	231	— of lymphatic glands	Haffner	786	Bats as a cause of colic	Seegert	528	Blindness, temporary	Lechle	200
Anæmia due to pediculosis	484	Anti-abortion vaccine experiments	800	Anti-formin and Acid-fast bacilli	293						
Angio-Fibroma of the Chorion in a bitch	Sparapani	55	Antiseptic, Petrol as an	292	Anti-tetanic serum—is it clinically efficacious as a preventive?	341					
Animal diseases in Edinburgh	651	—	J. P. Isherwood	353	— Efficacy of	T. B. Rogers	419				
Animal diseases, Mr. Rockefeller and	651	—									
An insurance question	W. Ascott	499									
Annual fiasco, The	828										
Annual general meeting, The	785										
Annual general meeting, The	Capt. G. Rees-Mogg	828									
Annual parade at Canterbury	136										
Annual report of Vety. Section P.H. Dept., Manchester, 1912	J. W. Brittlebank	188									
Annual report C.V.D. United Provinces	C. W. Wilson	192									
Annual report of C.V.D. in N.W. Frontier Province to March, 1913	V. de V. H. Woodley	300									

BOARD OF AGRICULTURE—	
Annual reports	641, 813, 829
Diseases of Animals—Returns.	
9, 14, 34, 48, 49, 66, 87,	
102, 116, 117, 135, 148, 162, 179,	
191, 211, 220, 240, 258, 280, 292,	
311, 319, 335, 350, 367, 380, 398,	
427, 432, 447, 467, 480, 498, 521,	
539, 555, 569, 585, 602, 623, 652,	
660, 668, 677, 687, 697, 703, 715,	
735, 744, 768, 771, 794, 806, 812,	
823, 839.	
Tuberculosis Order, 1913—Returns.	
102, 163, 241, 310, 366, 446,	
520, 603, 686, 749, 793.	
Boarding out of horses	179
Bone formation following trauma-	
matism	481
Boric acid powder, Toxicity of	
Charmoy	166
Bovine disease caused by Bacillus	
necrophorus	M. Balog 470
Bovine Onchocerciasis	20
Bovineoid tubercle bacilli found in	
man and true bovine bacilli, The	
relation between	631
Brahmin cattle and Ticks in Texas	300
Brain in birds	716
Brain tumours in two mares	
J. Lindsay	830
Bran as food for stock	483
Breton horses for Germany	154
Burning for lampas—conviction	410
"Cæsarean" on a bitch	
Sidney Smith, junr.	94
Calcareous precipitations in the	
bovine bladder	Van de Veen 403
Calving case, Peculiar, A. F. O'Dea	737
Cambridge Field Laboratory	633
Camden Town inaugural address	213
Camphor, Hypodermic injection of,	
in acute rheumatism, A. Borghesi	709
Canine distemper	L. J. Kelly 138
Canine piropiasmoses of Europe and	
Africa	Laveran: Nattan Larier 608
Canker	W. R. Davis 342, 368
— Arsenic in treatment of	
G. Rees-Mogg	368
— of Foot in the horse, Treat-	
ment of, with arsenious	
acid	J. J. Hilliard 314
Carcass values	315
Carcinoma, Influence of age on	
origin of	Dr. Teilhaber 373
Cardiac intermittency in the horse	
Dreyer	19
Castration, Hæmorrhage after	215
Catarrhal Fever in Irish Cattle	541
Cat influenza, Preliminary report of	
etiology of	J. Basil Buxton 589, 702
Cattle dentist fined	383
— hides injured by ticks	196
— in Queensland	571
— testing station in Scotland,	
Suggested	87
Cavalry remounts—Canadian horse-	
breeding	712
Chloral hydrate, Narcosis by in	
horses	Früs 832
Chloroform mask	F. Hobday 76
— vapour, New electrical appa-	
paratus for administra-	
tion of	F. Hobday 76
— Standing	J. H. Parker 138
—	P. J. Howard 269
—	Capt. J. W. O'Kelly 418
Chondroids from guttural pouch	
W. Hepburn	285

Chronic nasal discharge, case of	
Maj. E. E. Martin	106
Circular resection of trachea and	
primary suture	J. Mares 787
Clinical notes	E. C. Winter 96
—	J. W. Nolans 538
— reports	53
Clydesdales in U.S.A.	320
Cocaine Unusual susceptibility	
R. S. Little: D. Starkey	2
Coccidiosis in cattle in N. Devon	
R. G. Linton	71
Cocoon residue as cattle food	711
Cod liver oil, Action of on flies and	
mosquitos	Lang 644
Colic—its treatment	W. Brown 505
— Bots as a cause of	528
Colonial appointments, suitable ap-	
plicants for	572
—	688
—	705, 812, 842
—	J. M. Sinclair 812
Colon-typhoid organisms in Hog	
cholera	315
Compulsory notification	165, 196
Condition of Prince Palatine	119
Congenital mal-formation in a mare	
A. E. Willett	612
Contagious abortion, Inoculation of	
cattle with	F. M. Surface 218
Contagious abortion, treatment of	
with Bissulin, E. C. Winter	625, 688
Contagious agalactia of sheep and	
goats	H. Carré 738
Contagious mammitis of milch cows	
F. Espouy	342
Cossack horses	603
Council election, The	737
Council meetings	17, 245, 449, 653
County Council fees in Lincoln	227
"Covering"	228
Cowsheds and Dairies Order (Ire-	
land), Administration of	539
Creosote in sheep dipping	316
Cruelty at the Horse Show, Alleged	51,
— at Runcorn, dismissed 163,—to	
lambs, Rickets, dismissed 195,—	
charge at Folkestone 242,—prosecu-	
tion, docking, 321,—at Stafford, appeal	
allowed, 411,—at Hull, magisterial	
comments, 412,—at Llangefni, dis-	
missed, 414,—at Birmingham, Animals	
Transit Order, 1912, 445,—at Hull	
467,—charge dismissed, costs allowed,	
807,—prosecution at Bourne, dis-	
missed, 824,—prosecution at Bury,	
magisterial comments, 826	
Curious accident, A	354
Cyclopean monstrosity	G. Green 333
Cysticercus cellulose in the pig	
E. J. Burndred	434
Dairy calves—a suggestion	712
Dairy inspection	J. S. Lloyd 512
Death of circus horses at Olympia	448
Death of a foal, toxicity of morphia	
C. H. H. Jolliffe	814
Dermatomyoma in a cat	Ball 574
Diagnosis	J. McKenny 260, 295, 324
—	E. Wallis Hoare 280, 312
— and confirmation	325
Diaphragmatic hernia; Three cases	
of	W. W. Lang 821
Difficulties in diagnosis of disease in	
open markets	J. D. Whitehead 463
Dinner to Sir T. Elliott	313, 320
— to Mr. Robertson	339
Diploma in Veterinary State Medi-	
cine and the Fellowship Degree	385

Dipping and disease	R. J. Stordy 543
Disease in certified milk	623
Disease of middle ear: Linguatula	
teniodes in nasal chamber of an	
otter hound	H. Tudor Hughes 53
Dislocation, An unusual	
T. O. Richardson	470
Dislocation of carpo-metacarpal	
joint	W. Waters 185
Dislocation of the neck	F. Ware 37
Dispute about a mare	50
— about a gelding	649
Distemper, Treatment of with	
sodium hyposulphite	Teppaz 314
Docking of horses	467
Docked tails and grazing	484
Dogs Protection Bill, The	689
— medical protest	704
Double median and ulnar neur-	
ectomy	W. W. Lang 821
Dourine in France	316
Ductless glands, The	108
Dystokia, foetal	J. H. Parker 642
— maternal and foetal	
—	J. H. Parker 642
— hysterectomy	W. W. Lang 820
Echinococci in heart muscle	
G. Giovanoli	387
Eclampsia in a mare	L. Hub 326
Economic factors in cattle feeding	
H. W. Mumford	167
Effects of light on bacteria	714
Election addresses:—J. C. Coleman	751,
J. W. Brittlebank	766, T. C. Toope
767	
Electrical sterilization of milk	148, 497
"Emaciation," a cause of (T.O.)	
J. C. Coleman	196
Empirical therapeutics	2
Endocarditis in a horse, Acute	
W. H. Wilkinson; J. F. Craig	418
Enteritis, New equine verminous,	
Cuillé; Marotel; Roquet	690
Entropium spasticum in a horse	
Becker	165
Enzootic in young pigs, caused by a	
Streptococcus pyogenes	Rievel 230
Ephemeral lameness	197, 259
(See Lameness, also Diagnosis)	
Epithelioma of jaws in the horse	
Roquet	628
Epizootic abortion, an outbreak of	
J. Desmond	220
— The treatment of in large	
herds	J. Desmond 526
—	Capt. A. S. Head 646
— Equine	
K. F. Meyer; F. Boerner	798
Epizootic lymphangitis and its treat-	
ment	A. F. Harber 121
— in Algeria	167
Epizootic myocarditis of the sheep	
J. Lesage	139
Equine mange-disinfection	
W. R. Davis	384
— pleurisy, auto-serotherapy	
in	Haan 74
Examination of milk	H. P. Lewis 277
Exmoor pony, The	751
Exophthalmic goitre in the dog	
Hebrant and Antoine	3
Extension of inflammation of middle	
ear into cerebellum in a sheep	
Erhardt	299
Extracts of organs, Influence of, on	
secretion of milk	L. Giusti 436
Fees to Inspectors, Holland C. C.	494

Feline disease	707	Hernia of point of cæcum—radical cure	Auger 182	Inspectors of live stock	181
Fibrinæmia	156	Hodgkin's disease in a dog	W. Waters 186	International Veterinary Congress, Meeting of Organizing Committee	283
Fibrolysin in Strangles, M. Schmidt	470	Hog cholera, colon-typhoid organisms in	315	—— American V.M.A., and the	603
Fibroplastic necrosis in calves	W. J. Young 469	Holstein bulls for dairy herds	196	International Congress, The	37, 121, 297, 341, 449, 653, 797
Filaria papillosa in Mongolian horses	Helmmuth 39	Honorary Associates R.C.V.S.	469	(See also Tenth I.V.C.)	
Filter passers	141	Honours list, The New Year's	433	Intestinal obstruction, caused by a diverticulum	Moulis and Salenave 420
Flies and disease	716	Horn on cow's neck	J. H. Parker 642	Intradermic inoculations of T.B. as a test for their virulence	107
Foot and mouth disease, Pathogenesis of, Joseph Böhm, 154,—In Ireland, Cost of, 195,—W. Awde, 201,—in Sussex 323,—in Hertfordshire 398,—Transmission of, from animals to man, Prof. Cadiot, 449,—in Ireland, 501,—at Naas 521,—541,—at Birkenhead 556,—at Redditch and Liverpool 571,—in Co. Cork 585, 602,—a lesson from the past 636,—in Liverpool and Cork 638,—in Co. Dublin 651,—Co. Kilkenny 686,—at Birkenhead, 689,—Prin. A. E. Mettam, 776		Horse failing to lie down—warranty	584	Intussusception of cæcum in a horse	S. Black 261
Forage poison (cerebro-spinal meningitis: "Staggers,") R. Graham	184	Horse-flesh as beef	431	Ireland and Cattle disease	339
Foreign body in lung of a dog	314	Horse industry in Queensland	539	Irish horses for the Greek Army	136
—— operation	W. Perryman 474	Horse v. Motor	469	Irregular dentition	H. Sumner 746
Foreign voting papers	468	Horse not yet extinct, The	136	Jensen's serum against Purpura hæmorrhagica	Prof. Fröhner 542
Fracture of cuneiform magnum		Horse owner and the motor, The	634	Jewish method of slaughtering justified in Canada	88
—— of innominate	W. Peggie 309	Horse-shoe competition	14	John's disease	42, 785
—— of J. W. McIntosh	694	Horse sickness (illus.)		——	E. Ebbetts 208
—— of incisor teeth in the horse		Horse in U.S.A., The	717	Keratoma	R. Eaglesham 38
—— of articular extremity of scapula	Capt. J. R. Hodgkins 525	House Fly as a "carrier"	231, 232, 716	Kerosene, Death following the external application of	767
—— of os pedis treated by Bier's method	Capt. C. E. Steel 768	Human and Avian diphtheria	F. Arloing 642	Kinnard appeal case, The	245
—— Lemère et Ducrotoy	785	Human tubercle bacilli in the milk		Labarraque's Fluid in surgery	Frederikse und Gallandat Huet 738
Fractured navicular	S. E. Sampson 511	of a vaccinated cow	156	Lachrymal canal, Congenital atresia of	Hartog 166
—— vertebra in a horse		Humane killer, Man injured by	14	Lameness, Ephemeral	259
—— Capt. G. Rees-Mogg	694	—— Boy shot by	149	—— E. Wallis Hoare	197, 244
Fractures in foals and colts	W. Waters 184	Hunting Memorial Fund 293, 312, 323 (meeting), 325; circular 473; lists 340, 351, 364, 384, 400, 431, 446, 468, 498, 540, 571, 604, 639, 668, 751, 783		—— G. Mayall	216
Frozen meat in Switzerland—restrictions	355	Hunting, William, F.R.C.V.S.	281	—— G. O. Rushie Grey	215
Gelatin in microscopical technique	W. Johnson, M.D. 540	—— and his influence on Veterinary science		—— and diagnosis E. W. Hoare	279
Glanders	229	—— E. Wallis Hoare	310	(See Diagnosis)	
—— in London	568	—— his nationality	Henry Gray 311	—— A puzzle in	P. J. Howard 854
—— Effect of an injection of mallein on the serum		Hydrocephalus in a bovine fetus (illus.)	J. Desmond 502	—— J. McKenny	370
—— diagnosis of	654	Hydrocyanic acid, formation of, from linseed meal	S. J. M. Auld 218	—— Another unexplained	
—— The mallein test for	711	(See also 213)		—— Wakefield Rainey	387
—— and public water supply	716	Hydroquinine, hydrochloride	149	—— Coronet	H. Sumner 747
—— Diagnosis of	783	Hygromas in cattle	F. Espouy 449	Laminitis, Pathogeny and treatment of	Régner 558
Glasgow V. Coll. Session opened	241	Hypoderma bovis, Evolution of the	A. Lucet 799	Laparotomy for torsion of uterus	Knitl 373
Glass windows for pigs	292	Hypotensive medication, Drugs for	Dr. Felix Dossin 542	Larynx, Spasm of the	137
Goitre (struma mollis) in puppies	E. S. Gillett 71	Hysteria in a mare	D. Keir 797	Latin as a compulsory subject for the preliminary examinations	688
Government publications, 150, 311, 340, 415, 798, 814, 832		Iceland ponies	311	Light horse breeding	687
Hæmatoma of spleen in a dog	Prof. Joest 298	Infectivity of parts of organs of glandered horses: the complement fixation reaction with guinea pigs: some curative and immunizing tests	H. Meissner 140	Local names for sheep	717
Hæmoglobinuria in foals	Kräuzle 754	Influenza of the horse, Pectoral form of	Gafky 182	"Localized" tuberculosis in the pig	748
Hæmorrhage from vena cava caused by exostosis	Lagaillarde 166	—— Lesage: Gordsjalkowsky: Nevermann: Kettner	183	London Hackney show	484
Hæmorrhages in the cardiac valves of young calves	G. Egge 504	Immunization and the Country V.S.	E. W. Morris 764, 784	Loose combinations of oxygen in some coloured bacteria and fungi	K. Shibata 327
Hæmorrhoids in a horse	M. Schmidt 607	Imperial Bacteriological Laboratory, Muktesar, its work and products	Major J. D. E. Holmes 575	Lung puncture in pulmonary tuberculosis an aid to diagnosis	W. Scott 605
Hæmostatic, A new physiological	713	Incomplete delivery of a cow	E. Morgan 502	Mal de Caderas, Notes on	Capt. A. L. Farrant 626
Handling of wool, The	150	Inguinal hernia in the bitch	Prof. E. B. Reynolds 564	Malignant catarrhal fever of the ox, Atoxyl in	450
Helminths and cancer	636	Inheritance of horns in sheep	T. R. Arkell 327	Mallein, Effect of an injection of, on the serum diagnosis of glanders	Basil Buxton 654, 695
Hemiplegia, Central, in a horse	Busch 527	Injured navicular bone	Prof. Wooldridge 545	Mallein injections, Influence of, on blood tests for glanders	A. Marcis 420
		Inspection of meat in U.S.A.	540	Mallein test, The	Dr. J. R. Mohler 711
		Inspectors' fees	H. Gray 16	Mammary botryomycosis in the mare—treatment	W. Plötnner 559
		—— "Diogenes"	16		
		—— E. Wallis Hoare	36		
		—— Borough of Folkestone	838		

Mammitis, Contagious, of cows 342	Nasal Catarrh—an enquiry 828	Pathogenicity of Theiler's trypanosome Vryburg 138
— Acute parenchymatous of cattle R. P. Jones 502	National V.M.A.—Annual Dinner 84	Pathological opportunities 369
Man and microbe J. Storie 175	Council Meeting 721, 752	Peculiar case, A L. C. Maguire 54
Mange in horses, Some aspects of A. W. Noël Pillers 358	Special Committee Meeting—Insurance Fees 755	— another 93
— sarcoptic, in the dog 486, 604	Drugs and Instruments 86	Pentastomum tænioides, Cases of J. F. D. Tutt 124
— prosecution at Hartlepool dismissed 648	"National" Meetings, The 37, 53, 69	Perforation of intestine by fragment of bone in the dog Rubay: van Goidsenhoven 729
Manual treatment of bovine ovary in sterility Gebauer 628	National Veterinary Benevolent and Mutual Defence Society, Annual Meeting 630	Perhydrit; a stable preparation Dr. J. Schumacher 486
Meat Inspection—medical man as veterinary inspector 584	N.A.V.I. T. F. Spencer 768, 795	Persistence of bacillus of Infectious abortion in the tissues of animals W. E. Cotton 387
Medical research under Insurance Act 585	— T. C. Toope 784, 843	Petrol as an antiseptic 292
Melanosis in calves W. J. Young 469	Necrobacillosis in the goat 574	Pharyngitis, with cervical abscess opening into trachea Janin 573
Melanotic sarcoma of digit with metastases in a dog Samson 607	Neglect of pit ponies 794	Phenalized blood in inoculations 300
Mendelism, About 711	Negri corpuscles, Demonstration of, and the differences from Sinigaglia's corpuscles L. N. Luzzani 629	Phlebitis after Strangles resulting in septicaemia Natal 816
Meningo-encephalitis in a dog Roquet and Sellier 671	Neoplasms in the testicle R. Galli 574	Phylacogens and Strangles 154
Metallic ligature of umbilical cord Hursch 298	New Forest ponies 148	Picked-up nail Prof. Wooldridge 613
Microscopical specimens, an innovation 197	New internal secretion gland 259	Pineal gland, Influence of, on the genital organs Grigorin Cristea 3
Milk, Bacteriology of, in relation to infant feeding and alimentary disease Dr. Ralph Vincent 709	New process of producing salt 338	Piroplasmosis, Equine M. Carpano 739
Milk and Dairies Bill, The 753	Next year's Register 313	Pituitary body, Influence of, on the kidneys Prof. Simmonds 403
— J. W. Brittlebank 767	Nominations to Council 541, 751	Pituitary extract 229
Milk, Electric treatment of 710	Normal blood of the carabao (Buffalo) W. H. Boynton 140	— in bovine and equine obstetrics Schmidt and Kopp 199
Milk Fever, Cases simulating Dun 19	"Not confirmed" 480	— Action of, upon sows W. Gottschalk 231
— Suggestion for prevention W. E. Blackwell 38	Oldest veterinary surgeon in England 497	Pituitrin in obstetric medicine 12
— T. A. Huband 54	On swine fever G. Upton 52	"Plain" cows for the sausage trade 415
— E. J. Thorburn 67	"Open joint," Case of W. Brown 92	Plant diseases—National inspectors 585
— and treatment of E. Wallis Hoare 89	— Clove oil for J. F. Dunning 93	Pleurotic effusions, The treatment of Capt. P. V. Beatty 18
— H. Thompson 90	Operation for roaring, The 54	Pneumonia in the horse, Treatment by iodipin J. Schaaf 707
— T. B. Rogers, 151	Operations without casting 261	Poisoning by linseed meal F. H. Sanderson 11
— L. J. Kelly, G. F. B. 151	Ophthalmology, Auto-serotherapy in 606	— in calves by hydro-cyanic acid generated in linseed meal F. H. Sanderson 213
— Prevention of James Smith 153	Optic neuritis in horses A. Mayer: E. Hieronymi 470	— by Barium nitrate W. J. Moody 229
— Cause and prevention of A. H. Archer 228	"Overstocking," Alleged, at Chester Appeal—Justices to convict 337	— yew W. R. Davis 325
Milk, The sale of 430	Panama Canal and South American diseases W. J. Moody 243	— by tobacco juice in cattle G. Giovanoli 387
Milk sterilization by electricity 148, 497	Paralysis of the quadriceps femoris H. Marcus 402	— in cattle, Potato E. McSwiney 433
Milk supply in Ireland, The 292	Parenchymatous mastitis, Therapeutics of Louis A. Klein 644	— of cattle by insect bites 526
— in Edinburgh 635	PARLIAMENTARY—Shortage of cattle waggons 12	— by Castor seeds Prof. G. D. Lander 614
Milk, value of pure 448	Duties of Veterinary Inspector L.G.B. for Scotland 12	— Arsenical, magnesium sulphate in 629
Milking cows 259	Docking of horses 13	— by zinc H. Sumner 745
Mines Act, 1911—a prosecution 482	Vivisection experiments 13	— by oleander leaves in the horse Leicht 800
Mr. Mond on tuberculosis in cows 573, 604	Dogs Protection Bill 87	Poisons Act in New Zealand 135
Morphia, Toxicity of 814, 830	— Amendments 35, 51	Poll evil, Treatment of, without operation 313
Mortality of stock on mangels C. Aston 141	Foot-and-mouth Disease 556, 637	Polyarthrititis in swine, Acute sero-fibrinous, caused by transport A. Stützel 708
Motors and embezzlement 227	New Bills 556	Polycystic lesions of bovine liver L. Carchenez 373
Motors and Veterinary Students 411	Swine fever and serum experiments 624	Portable box for Tuberculosis Inspectors G. E. King 39
Motor taxes, The T. B. Bindloss 524	John's disease 637	"Post-Graduate" Dinner 368
Motor taxes: Petrol rebate Capt. A. C. Wilson 624	Tuberculous milk 651	Post-pharyngeal surgery R. Jones 739
— Mule in U.S.A., The 712	Pure milk 704	Prescriptions 524
— Mule mare with foal G. J. Harvey 71	Civil Pensions—Research 705	Presentation to Sir C. J. Nixon 49
— Mule with foal A. H. Gentle 104	Milk and Dairies Bill 705, 750, 809, 811	Private slaughter-houses, The question of 153
Mumps in the ape 92	— Scotland 811	"Professional"? 360
Mutability of the Tubercle Bacillus Dr. Alex. James 304	Position of Animal diseases 839	
— 313	Prevalence of Swine fever 840	
Mycosis in the ox, generalized P. Langrand 246	Training of veterinary scientists 840	
Myxo-sarcoma of ovary in a bitch Hebrant: Antoine 485	A new Tuberculosis Order 840	
	Irish Cattle 840	
	Patent Medicine Trade F. Hobday: G. D. Lander 294, 297	
	Patent medicines for animals G. P. Male 840	
Narcotic and anæsthetic, combination of, in veterinary surgery Roger 644	Paternal tuberculosis, The question of Nestor and Valsanu 3	

Profession and the State, The	578	ROYAL COLLEGE OF VETERINARY		Sclerostomum armatum, Treatment	
Professional associations	353	SURGEONS—		for, Graham Rees-Mogg	752
conduct—our Bye-laws	669	First Meeting of Council	23	J. Brown	767, 784
Prof. Harvey Cushing on the veter-		Quarterly meetings	25, 247, 451, 661	bidentatum, Life history of	
inary profession	105	Special meeting	255, 278, 457, 480	R. Stier	200
E. Wallis Hoare	120	Examinations: London	33, 50, 399,	Score card for handling bulk milk,	
Prolapse of rectum in horses		451, Edinburgh	50, 86, 413,	U.S.A. Dept. of Agric.	315
Heisener	709	Dublin	50, 381, Liverpool, 65,	"Scrapie" seventy years ago	482
of small intestine through		399, Glasgow	66, 413, Fellow-	Sensitized or sero-vaccines, W. Scott	669
rupture in rectum after		ship	381, 523, 755.	Septicæmia in calves from the meat	
parturition	Barthe	Prosecutions	103, 567	inspector's point of view	
Prohibition of export of Russian		R.C.V.S. v. Kinnard	255	Luxwolda	799
horses	652	Donation	324	Septic meningitis, A case of	
Pyelo-nephritis in a foal, W. R. Davis	1	Annual meeting	787	J. B. Wolstenholme	726
Pyogenic fever with multiple		Royal Sanitary Institute Congress	17	Serum treatment of swine fever	118
abscesses in a foal, A. M. Crighton	127	address by Prof. J.		Shetland sheep dog, The	523
Pyometritis, chronic, in a cow		Pemberthy	44	"Sir Oracle"	G. Mayall 295
Herbet	817	The Milk and Dairies		Sir Thomas Elliott	313, 320
Purpura hæmorrhagica		Bill	W. Ascott 80	Skin affection—unidentified	
Prof. Wooldridge	592	Bovine tuberculosis, its		E. W. Bovett	395
Jensen's serum for	542	diagnosis		Skin lesion of horse, Rare	369
Proteid ratio in ox feeding	219	W. P. Stableforth	142	Slaughter of calves	430
Psammoma, Case of		Transmission of diseases		Snake bite (?)	S. Smith, jun. 297
Capt. B. A. Jarvis	417	by animals to man		Sodium hyposulphite in treatment	
Psoroptic mange in the horse		A. H. Archer	156	of distemper	314
A. W. Noël Pillers	20	Private slaughterhouses,		Spasm of the larynx	
		public abattoirs, and		H. E. Whitmore	137
Rabies in India	603	freibanks		Specific epizootic necrobacillosis in	
Rachitis, Experimental, in young		Herbert Peck, M.D.	158	the goat	Pesadori 574
from parents deprived of thyroids		Prevention of human		Spring in Australia	150
H. Claude: J. Rouillard	737	tuberculosis of bovine		State aid for Veterinary Surgeons	485
Radial paralysis, a sequel to casting		origin (T.O. 1913)		State control of Tuberculin	
A. J. Cattell	719	W. G. Savage, M.D.	160	120, 137, 180	
Rankness in spayed sows		Congress, 1914	291	Sterility in the mare	A. F. Castle 133
W. Waters	185	—Veterinary Conference	824	Sterility, manual treatment of bovine	
Rare skin lesion of the horse resem-		Examination	415	ovary in	628
bling Dermatitis erysipelas		Provincial meeting	624	Sterilization of the hands by Thymol	717
W. G. Berry: A. W. Noël Pillers	369	R.S.P.C.A. prosecution—dismissed	335	Sterilized milk: Bovine tuberculosis	580
Ration of the troop horse	210	ROYAL VETERINARY COLLEGE—		Strangles, Fibrolysin in	470
Rebate on petrol	J. Holland 260, 340	Annual meeting	49	Phylacogens and	154
B. P. J. Mahony	294	Address: Sir J. M'Fadyean	221	Strangulated scrotal hernia in a dog	
Rectal examination in diagnosis	228	Prize list	226	J. W. McIntosh	613
Redworm, Peculiar case of		Annual dinner	339	Stuttgart disease	H. Sumner 747
W. Waters	185	Rugby match v. Dublin	586	Subcutaneous emphysema in a cow	
"Referred back" (V.S. a/c)	135	Athletic sports meeting	841	Humann	18
Regeneration of the testis	635	Rupture of a thoracic oesophageal		Successful pony breeding	498
Register R.C.V.S., 1914	603	diverticulum in a horse		Sugar in the treatment of wounds	
Registration of rural slaughter-		F. Volkmann	155	G. Magnus	166
houses	240	of stomach in a foal		Sunstroke in a thoroughbred gelding	
Relation of animal fat to tubercle		D. C. Greene	326	A. S. Milne	669
bacillus fat	W. C. White and	of uterus after use of pitu-		Superstitions	324
A. M. Gammon	73	itary extract		Surgery of the heart	687
Renal disease (calculus) in a mare		Dr. Germ Espent	338	Suspension of the udder, in mam-	
R. Eaglesham	759	of uterus in a cow—a		mitis	W. F. Poulton 16
Research Defence Society, The	485	warning		"Sweet Bloom"	136
"Research"	716	L. W. Wynn Lloyd	386	Swine fever in Holland—Treatment	33
Rheumatic tendonitis, R. Eaglesham	758	Ruptured uterus	G. H. Livesey 545	serum, U.S.A.	149
Rheumatism, Acute, camphor in	709	Ruptured uterus in a sow		Serum treatment of	383
muscular, in horse with		V. Pride Jones	558	use of serum against	557
petechial fever and endo-		Ruptured bloodvessel in penis of a		649	
carditis	Prof. Fröhner 799	dog	G. H. Livesey 693	The cost of	712
Right of admission to the Law:		Salaries of G.V.S. in S. Africa	366	the spirocheta suis; its	
Appeal Court decision	381	(See also 572, 688, 705, 812)		characteristics as a	
Roads and Horses	15	Sale of milk	430	pathogenic organism	
Roaring, The operation for		Salvarsan in the horse and dog		W. E. King: G. L. Hoffman	770
J. J. O'Connor	54	Salvarsan	J. D. E. Holmes 191	Treatment of	841
Röntgen rays in treatment of		Salvarsan	197	Synthetic milk	623
tumours	736	Sarcoma, Melanotic, of digit in a		Teaching of clinical medicine, The	444
R.A.S.E. experiments at Woburn		dog	607	Tetanus	J. H. Parker 138
on rearing calves	402, 404, 569	of liver and spleen in dog		protracted case of, Lechle	200
R.C.V.S., Position of the	769	W. W. Henderson	797	treatment of, Prof. Schmidt	326
Royal Co. Agric. Society	415	of a digit, giant celled, Ball	817	a second attack of	
R. (Dick) VETERINARY COLLEGE—		Sarcemata, subcutaneous, in the		E. Morgan	501
New secretary	79	horse	R. Eaglesham 758	a case of	Eisenmenger 671
Address Dr. O. Charnock Bradley	232	Sarcoptic mange in the dog		mag. sulph. in treatment of	718
Site for extension	393	Prof. J. F. Craig	486, 604	Thanks to electors: J. C. Coleman,	
Royal Dublin Society Show	364	Sarcosporidin	800	G. A. Banham, P. J. Howard	811
New President	383	Scheduled disease in 1913	417	T. C. Toope	828

Tenth International Vety. Congress Lists F. W. Garnett 343, 428, 691	Tuberculosis in cattle. The incidence of, P. McIntyre, 13,—Rectal diagnosis of, W. T. D. Broad, 199,—of brain, two cases of, Bergschicker, 299,—early stages of mammary, Zoest and Kracht-Palejeff, 326,—laryngeal, in the ox, Prof. Schlegel, 354,—advanced, in a bull: death from bronchial hæmorrhage, T. J. Simpson, 419,—bovine cerebral, Rieussec, 436,—in cattle, J. B. Dunlop, 442,—in the pig caused by avian bacillus, O. Bang, 450,—notes on twenty cases of, W. Caudwell, 491,—age of cattle affected with, slaughtered under the Order, W. T. D. Broad, 558,—transmissibility of, J. C. Coleman, 624,—avian, in man, E. Löwenstein, 643,—subcutaneous in a cow, Ch. Pérard, 643,—canine, researches upon, H. Schornagel, 690,—of bowel in a pony, with intussusception, J. Willett, 693,—mammary of, H. Bombard, 785,—in France, notification, 87,—an infecting agent in 181,—unsuspected, 151,—diagnosis of 298,—(Animals) Committee 310,—bovine, in man, 542,—in cows, Mr. Mond on, 573, 604,—Pulmonary, lung puncture, an aid to diagnosis, 605,—localized in the pig 748	Unnerved horse, Sale of 413
Committee: list of reporters 471	Tuberculosis Order, 1913, and its effects on the V. profession 43	Unsuspected tuberculosis W. Brown 105
Committee 570	— Fees J. R. Robins 52	Upkeep or motor cars W. Woods 294
Ladies' Committee 686	— H. E. Whitmore 67	— G. Mayall 340
programme of meetings 837	Tuberculosis Order, 1913, 67, 121, 134	— 341
The City of London and the 838	— Prosecutions under 117, 147	Unqualified opposition 525
The Zoological Society and the 841	— 226, 240, 398, 602, 823	Urethral calculi in a mare Eggink 155
The completest horse 259	— in Cornwall, Cost of 146	Urticaria, Symptomatic, in a cow Neuenschwauder 720
The Congress and the public 402	— The B. de Vine 171	
The dog's gamut 383	— T. A. Douglas 317	Vaccine therapy in pneumonia W. Scott 371
The milk question again 339	— Limitations of the 324	Value of pure milk 448
The need for study 625	— Some secondary effects of the 353	Varicose tumour of vagina in a mare Hartog 182
The rearing of germ free warm-blooded animals Prof. Küstner 402	— Amendments of the 497	Veterinary literature 1
"The Record" 297	— C.C. sued for Compensation 521	— etiquette 52
The Schools 181	— in Perthshire 651	— profession and the Animals Anæsthetics Bill F. Hobday 56
The Southdown 190	— Working of the S. H. Slocock 741	— Carbolio Oil 86
The week's meetings 69	Tuberculosis and the Order 568	— department for Edinburgh, proposed 88, 623
Thymol, sterilization by 717	Tuberculous growths on the semi-lunar valves of the pulmonary artery in a cow Giovaneli 154	— Work in British E. Africa 468
Thrombosis of anterior aorta in a horse 671	— bronchial gland in a calf W. Hepburn 286	— Practitioners, The supply of 605
Toxicity of boric acid powder 166	— laryngeal tumour in a horse W. Hepburn 286	— inspection and the police 719, 752
Toxicity of morphia, The? 814	— poultry 149	— inspection in relation to Public Health Service J. W. Brittlebank 736
— H. C. Wilkie 830	— milk in Manchester 189	— inspectors 38
Toxicology 605	— cattle, Destruction of 749	— inspectors' fees in Wales 119
Toxin formation by the Anthrax bacillus A. Marxer 74	— cow—failure to notify 807	— Research G. P. Male 842
Toxin in ascaris megaloccephalus M. Weinberg 527	Tumours, Treatment of, by Röntgen Dornis 738	— scheme for Co. Dublin 712
Torsion of uterus in a mare W. Waters 186	Tumour in rectum—horse Leicht 786	— Societies' Addresses 67, 151, 211, 295, 351, 415
Traffic in old horses 35, 149	— in brain, two cases 830	— 499, 587, 639, 705, 795, 843
Training of performing animals 414	Twist of the double colon; Twist of floating colon; Twist, mesenteric, of small bowel, W. W. Lang, 822	— surgeon, Claim by—disputed sale 632
Traumatic maladies of the horse's foot W. R. Davis 475	Two pre-aseptic laparotomies W. Hunter 587	— Surgeons Act Amendment Bill 541
— pericarditis, Bovine Prof. Moussu 542	Ulceration of head of femur and acetabulum S. E. Sampson 333	— surgeons—and the future W. Brown 104
Traumatism of spleen—foreign body Dora 708	Ultra-violet rays in sterilization 709	— surgeons in S. Africa—an appreciation 749
Treatment of horses at the army manoeuvres 338	Union of South Africa; Vety. Div., Dept. of Agric., Distribution of officers 648	— surgeon's action for negligence 806
— of remounts, Notes on Capt. F. C. O'Rourke 375		— 501
— of foals—morphia in H. C. Wilkie 830		Victoria V. Benevolent Fund, Bowls at Woodbridge 136
Trypanosome, Theiler's, Pathogenicity of 138		— Aids to, W. Shipley 228, 247
Trypanosomes in a cow in England A. C. Coles 139		— Quarterly meetings 145, 303, 519, 685
Tubercle bacillus, The 66		— Annual Report 789
— test for virulence of 107		— Annual Meeting 806
— mutability of 304		— London Orphan Asylum 842
— a method of differentiating from acid-fast forms G. Gair 541		Vitamine 647
— in the gall of animals C. Titze, E. Jahn 708		Vivisection, The case for 15
Tubercle infected milk and tuberculosis Prof. Beattie 672		— and veterinary science Sir J. M'Fadyean 119
— splenectomy and increased resistance to the 713		— The practice of 163
— virus in byres, destruction of D. Ottolenghi 719		Vomition in the horse J. H. Parker 642
Tuberculin, The unrestricted sale of G. P. Male 120		Wasp stings, Effect of, on horses 107
— State control of 137		Water in veterinary surgery, misuse of Fontaine 559
— G. P. Male 180		"We" 280
— at Perth sales 351		"Who takes or uses" 623
— an American plea for 544		Width of jaw in cattle: relations of 167
— test—sale of a shorthorn 808		Women and practice of law 369, 381
		Women solicitors—a coming Bill 568
		Wounds, Sugar in treatment of 166
		"Wroth silver" 293
		X ray cancers and radiation therapy 484
		X rays in canine practice J. Taylor 754

Yew poisoning W. R. Davis 325
claim for loss of a horse 362

Zigaya sheep, The 634

A VETERINARY HISTORY OF THE
WAR IN SOUTH AFRICA pages 157-292

INSTRUMENTS.

Scott's dog chloroform inhaler 383
Tracheotomy tube, New, J. Young 446
Electro-neurotome, W. L. Little 596
Lung puncture syringe: milk aspirator, W. M. Scott 815

PLATES.

Dislocation (?) of cervical vertebrae in Nellore heifer 37
Keratoma 37
Care of Elephants in India 70
Mule mare with foal 71
Yorkshire and North Midland Associations at Buxton 99
Tumour in abdomen of a dog (X ray) 262
Mange in the horse (2 p.) 356
Rare skin lesion (2 p.) 369
Endocarditis. Psammoma 417
Sarcoptic mange in the dog 490
Members North of Scotland V.M.S. 559
Major J. D. E. Holmes 575
Impl. Bacl. Lab. Muktesar (2 p.) 576
Alopecia toxica 625
Osteo sarcoma: Actinomycotic 707
Fracture of Scapula 769
United Provinces V.M.S. 770
Sarcoma of liver and spleen: Dog 797
Tendonitis: Multiple Sarcoma 832

BOOKS.

A Monograph on John's Disease, by F. W. Twort and G. L. Y. Ingram 15
"Izal" publications, Messrs. Newton Chambers & Co. 119
Clinical bacteriology and vaccine therapy for veterinary surgeons, by W. Scott 367
A journal of Animal Psychology 367
A text book of horse-shoeing for horse shoers and veterinarians, by A. Lungwitz 399
Practical bacteriology, microbiology and serum therapy, by Dr. A. Besson, trans. Prof. H. J. Hutchens 413
Special pathology and therapeutics of the diseases of domestic animals, Dr. Franz Hutyra and Dr. Josef Marek. Vol i. 447, Vol. ii. 637
The chemistry of cattle feeding and dairying, by J. Alan Murray 636
Merck's annual report of recent advances in pharmaceutical chemistry and therapeutics, 1912 652
The common colics of the horse, H. Caulton Reeks 714
Médecine canine, P. J. Cadiot et F. Breton 750

PERSONAL.

ACCIDENTS, ILLNESSES, ETC.
Sir S. Stockman 36, T. S. Price 36,
G. P. Male 210, H. Redford 210,
W. Hunting 229, 259, 279, G. E.
King 293, T. R. Jarvie 468, R. N.
Lewis 499, H. Smith, 523.

APPOINTMENTS, ELECTIONS, ETC.

W. Kearney 15, T. Dunlop Young 88, A. S. Milne 104 G. Parker Short 150, D. C. Matheson 164, R. M. Malloch 199, J. Lindsay 259, Earl Derby 279, J. R. Greig 383, C. F. Shawcross 383, Sir Wm. Portal 415, D. McCall 484, T. Eaton Jones 499, A. Douglas 499, A. Lloyd 499, H. Peele 499, C. C. Nesling 572, Dr. R. T. Leiper 586, W. Marshall 652, Prin. McCall 652, A. Robb 652, D. H. Wood 668, J. C. Coleman 668, A. D. Minor 668, H. L. Chambers 688, W. Penhale 767, J. S. Mower 794, W. S. Lornie 794, W. Marshall 794, R. E. Drennan 794, J. M. Armfield 842.

HONOURS, DEGREES, ETC.

W. A. Elder 196, Sir T. Elliott 279, T. Chambers 324, G. H. Williams 399, T. M. Inglis 400, T. D. Young 824, 431, Sir Christopher Nixon, Bart. 432, Arnold Theiler 432, Major J. D. E. Holmes 482, Lieut. A. J. Curtis 572, F. Hobday 572, R. J. Hickey 586, Prof. Mettam 639, J. Facer, 639, W. Halstead 639, T. Menzies 639, H. L. Torrance 639, H. Taylor 688, A. Jones 751.

JUDGES AT SHOWS.

W. Marshall 103, A. B. Tully 103, — Panton 119, D. Macfarlane 119, W. Logan 136, A. Pottie 136, D. Allan 136, W. F. Houston 150, W. A. Della Gana 164, G. Gair 164, W. Graham Gillam 196, Prin. McCall 484, W. Logan 484, Prof. J. Penberthy 586, W. J. Hatton 586, R. Rimmer 586, H. H. Truman 586, W. Robb 688, H. Ferrier 688, W. F. Houston 751, W. Marshall 751, W. Braes 751, T. R. R. Hoggan 784, W. Walters 794, A. Pottie, Jun. 794, W. Logan 794, W. F. Houston 794.

PRESENTATIONS.

Alex. Johnston 119, R. Brydon 119, J. Alex. Todd 227, M. Stevenson 415, G. Howie 554, W. Brown 555, R. P. Paine 556, J. Brown 717.

WILLS.

E. Nettleship 368, Sir R. P. Cooper 312, R. Roberts 415, Sir G. Barham 468, J. Douglas 624, A. Macgregor 652, D. R. Sowerby 717.

MARRIAGES—

Abbott—Kitchen 15
Andrew—Ure 136
Chapman—Aubrey 15
Dixon—Scarlett 736
Foreman—Middlehurst 828
Gollidge—Culpin 36
Greening—Standlake 751
Hatt—Lawrence 524
M'Fadyean—Chute 243
McGowan—England 180
Marks—Dier 705
Martin—Samuelson 259
Paine—Bull 784

Petty—Stevens 499
Rowston—Porter 784
Searby—Boulbee 706
Stewart—Thomson 243
Thexton—Alexander 210
Trenchard—Ware 717
Wynn Lloyd—Pritchard 706

SILVER WEDDINGS—

Mr. and Mrs. Lloyd (née Hughes) 448
Mr. and Mrs. S. H. Slocock 767

BIRTHS—

Sons—Mrs. J. H. White 67, W. T. Bolton 180, W. T. D. Broad 293, J. MacFarlane 399, H. C. D. Gollidge 736.
Daughters—Mrs. Herbert Greenfield 243, W. W. Golding 586, W. Cecil Lowe 624, H. W. Leech 639.

OBITUARY.

W. Anderson 104, 120, T. Aubrey 650, Sir G. Barham 351, G. Bone 586, C. H. Brocklehurst 279, J. H. Brown 651, J. Bunnell 448, A. L. D. Bunton 448, J. G. Burden 136, Sir R. P. Cooper, Bart. 88, 104, 105, 312, G. Craik 650, G. Dean (Prof.) 794, J. S. Drabble 368, A. I. D. Drake 279, C. J. Dunn 119, H. Ferguson 794, W. Gammell 751, R. Glover 279 Dr. J. R. Green 811, H. Hills 794, W. Holliday 180, H. Howse 704, 718, G. D. Hoyland 312, J. H. Hulseberg 524, * W. Hunting 281, 282, 293, 311, T. F. Hutchinson 368, G. L. Y. Ingram 751, W. C. Ison 211, F. Jarvis 842, W. H. Kemp 164, G. B. Langran 524, H. W. Leech 586, J. Lyons 52, Maj. W. Martin Millar 767, A. W. Mackeand 524, 556, W. Maynard 828, A. McGregor 384, J. A. McGregor 736, A. J. McIntosh 104, E. J. Mellett 828, Dr. Louis Merck 227, A. Morrison 400, 549, E. Nettleship 312, 368, E. W. Nickson 279, 294, T. Oliver 180, E. O'Reilly 400, T. G. Palgrave 499, A. Paton 624, F. T. Powell 16, R. A. N. Powys 52, 180, A. Prudames 704, W. M. Reeman 88, J. Ringrose 36, C. Rugg 650, Dr. Schindelka 52, Dr. Schlamp 52, E. H. Scott 784, M. B. Scouler 243, A. V. W. Sewell 324, E. C. Smith 704, G. Smith 704, D. R. Sowerby 586, P. B. Spooner 751, Charles Sutton 150, E. Summer 52, James Taylor 164, P. F. F. Taylor 811, G. W. Tennant 351, H. Theakston 16, J. B. Thom 16, J. Thomson 259, 356, J. A. Thompson 384 400, L. Thompson 624, A. G. H. Thornly 243, C. Ward 767, A. Waterston 384, J. Watt, Mrs. J. Watt 604, 624, J. R. Whittle 368, Jesse Willows 279, R. Wilson 718, W. Wilson 384, 530, W. Wright 400, David Young 150, J. Young 164.
Mrs. E. J. Burndred 718, Mrs. J. W. Brittlebank 484, Mrs. R. L. Cranford 688, 751, Mrs. James Crowhurst 136, Mrs. John Gamage 586, Mrs. J. Brodie Nisbet 150, Mrs. Parnell 586, Mrs. T. J. Simpson 499.

* Other references to the late Mr. Hunting will be found at pp. 340, 345, 355, 374, 380, 390, 437, 451, 461, 463, 530, 549, 562, 639, 721.

VETERINARY SOCIETIES

NATIONAL V.M.A.

Annual dinner 84, Council meeting 721, 752, Special Committee meeting—Insurance fees 755.

LANCASHIRE V.M.A.

Specimens: X-Ray photograph 262, Interesting cases, W. G. Burdred 263, Some difficulties in diagnosis of disease in animals in open markets, J. D. Whitehead, 463, Presidential: G. H. Locke, 597, Annual dinner 597, Tuberculosis Order, 1913, A. B. Mattinson 722, Septic meningitis, J. B. Wolstenholme 726.

LIVERPOOL UNIVERSITY V.M.S.

Acid-fast bacilli in milk, Prof. Beattie 4, Presidential: J. P. Heyes 6, Meeting 511, Dairy inspection: with reference to the Tuberculosis Order and the proposed Milk Bill, J. S. Lloyd 512, Tubercle-infected milk and tuberculosis, Prof. Beattie 672.

MIDLAND COUNTIES V.M.A.

The Tuberculosis Order, 1913. Brennan de Vine 171, Some aspects of mange in horses, A. W. Noël Pillers, 356, Annual dinner 561, Presidential: J. Malcolm, Foot-and-Mouth disease, Principal A. E. Mettam 776 (795).

NORTH MIDLAND V.A.

Joint meeting 33, 98, Veterinary politics, H. Sumner 328, Specimens (illustrated) 333, Meeting 496, Presidential: F. L. Somerset 504, Colic—its treatment, W. Brown 505, Specimens 510, Veterinary inspection in relation to the Public Health Service, J. W. Brittlebank 729, 752, Specimens 735.

NORTH WALES V.S.

Annual meeting 309, Post-pharyngeal surgery, R. Jones 739

SOUTH DURHAM & NORTH YORKSHIRE V.M.A.

Scale of fees 9, 36, Prussic acid in linseed meal 11, Annual excursion 84, Annual meeting, Fees to inspectors, Foot-and-mouth, W. Awde, 201, Clinical cases 407, N.R. Vety. Inspectors 408, Presidential: J. M. Walker 408, Glanders, G. R. Dudgeon 409, Discussion 684, Cases 685.

YORKSHIRE V.M.S.

Psoroptic mange in the horse, A. W. Noël Pillers 20, Joint meeting 33, 98, The present day veterinary surgeon and his successor, Dr. O. Charnock Bradley 99, Quittor, Prof. A. Gofton 391, Annual meeting 608, Cases 609, Annual dinner 610, Some clinical experiences, H. Sumner 745.

CENTRAL V.S.

The Veterinary profession and the Animals Anæsthetics Bill, F. Hobday 56, Discussion 76, Diseased cryptorchid testicle, S. Slocock 74, New electrical apparatus for administration of chloroform vapour: Chloroform mask, F. Hobday 75, Annual meeting 265, Specimens 266, Annual dinner 345, Specimens: Presidential, Prof. Wooldridge 421, Report on Congress R.S.I., J. W. McIntosh 423, Parasites of domesticated animals which infect man, Dr. R. T. Leiper 424, Specimen, W. Perryman 474, Traumatic maladies of the horse's foot, W. R. Davis, 475, Specimens 545, Discussion 477, 546, Specimens 612, Poisoning by castor seeds, Prof. G. D. Lander 614, Effect of an injection of mallein on the serum diagnosis of glanders, J. Basil Buxton 654, 695, Specimens 693, Dilated œsophagus in the region of the neck in horses, N. Almond 758, Some interesting cases, R. Eaglesham 758, Discussion 834.

EASTERN COUNTIES V.M.S.

Clinical cases 94, Sterility in the mare, A. F. Castle 128, Cases of interest, W. Waters 184, Specimens 491, Annual meeting 590, Purpura hæmorrhagica, Professor Wooldridge 592.

LINCOLNSHIRE AND DISTRICT V.M.A.

Presidential: C. W. Townsend 275, Examination of milk, H. P. Lewis 277, Some surgical operations on the dog, Prof. E. Brayley Reynolds 563, Interesting cases, W. W. Lang 820.

ROYAL COUNTIES V.M.A.

Notes on the treatment of remounts, Capt. F. C. O'Rourke 375, Specimens 378, Report on R.S.I. Congress, G. P. Male 530, Specimens 532, V.I. Section 532, Presidential: J. C. Coleman 532, Annual dinner 533, V. inspectors branch 741, The working of the Tuberculosis Order, S. H. Slocock 741, Specimens 743

SOUTHERN COUNTIES V.S.

Presidential: G. H. Livesey 41, John's disease 42, Tuberculosis Order 1913 and its effects on the veterinary profession 43, Meeting 235, Report on R.S.I. Congress, A. H. Archer 236, Veterinary Inspectors' Section 237, X-ray photographs, J. T. Angwin 239, Inspectors' section 436, Anthrax in the horse, A. H. Archer 439, Annual dinner 440, Annual meeting 697, On the etiology of cat influenza with microscopical demonstrations, J. Basil Buxton 700.

SOUTH EASTERN V.A.

Fees by insurance companies: Tuberculosis Order 205, John's disease, E. Ebbetts 208, Specimens 210, Annual meeting 490, Notes on 20 cases of tuberculosis, W. Caudwell 491, Discussion 494, 537, Inspectors' section 535, 556, Annual dinner 537, Presidential: E. Lyne Dixon 761, Insurance fees 763, Immunisation and the country V.S., E. W. Morris 764, Inspectors' section 788.

WESTERN COUNTIES V.M.A.

Presidential: C. E. Perry 304, Clinical cases 395, Annual meeting: Epizootic abortion, Capt. A. S. Head 646, Discussion 726.

CENTRAL (IRELAND) V.A.

Presidential: B. P. J. Mahony 95, "A day in the life of a country practitioner," E. C. Winter 96, Notes on cases, 288, Several odd cases, Miss Aileen Cust 289, Ethics 289, Notes on clinical work, J. W. Nolans 538.

V.M.A. OF IRELAND.

Deputation to D.A.T.I. re Royal Vet. Coll. of Ireland 59, Presidential 60, The Tuberculosis Order 60, Fees 65, Munster Vet. Inspectors' Association 267: Correction 295: Administration of chloroform to horses standing, P. J. Howard 269, Motor cars and petrol 461, Sarcoptic mange in the dog, Prof. Craig 486, 604, Annual meeting 677, Dinner 681.

NORTH OF IRELAND V.M.A.

The Tuberculosis Order, Howard M'Connell 124, Presidential: J. A. Jordan 125, Pyogenic fever in a foal 127, Abnormal phalanges in cow 127, Some abnormalities met with by the cryptorchid operator 378, Annual meeting 703.

June 27, 1914

THE VETERINARY RECORD

NORTH OF SCOTLAND V.M.S.

Interesting cases, W. Hepburn 285, Fees paid by C.C. 287, Presidential: W. Marshall 550, Working of the Tuberculosis Order, A. Kerr 551, Presentations—G. Howie, W. Brown, group 559.

SCOTTISH METROPOLITAN V.M.S.

Man and microbe, J. Storie 175, 620, Mutability of the tubercle bacillus, Dr. Alex. James 304, Fracture of innominate, W. Peggie 309, Presidential: J. Riddoch 619, Specimens 622.

WEST OF SCOTLAND V.M.A.

Presidential: Prof. J. R. McCall 316, Tuberculosis Order 1913, T. A. Douglas 317, Discussion 528.

NATIONAL ASSOCIATION OF VET. INSPECTORS.

Presidential: J. Abson, 101, Experience gained in the working of the Tuberculosis Order, 1913, Hugh Begg, 107, Resolutions 111, Correspondence 768, 784, 794, 843.

NORFOLK VETERINARY INSPECTORS' ASSOCIATION 520.

SOCIETY OF VETERINARY OFFICERS OF HEALTH.

Sixth Annual meeting 241.

CENTRAL CANADA V.A.

The Hunting memorial 629, Letter of appreciation 639, Schedule of fees 629.

NATAL V.M.A.

Annual meeting 709.

V.A. OF NEW SOUTH WALES.

Presidential: Mr. S. T. D. Symons 47, Annual dinner 771.

UNITED PROVINCES V.M.A.

Annual meeting 770.

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VETERINARY LITERATURE.

No reader of the leading medical journals can fail to notice that the output of books by medical men is relatively much larger than our own. Naturally there are very many more works on particular diseases or classes of diseases; for medical practice, especially, perhaps, upon its surgical side, is more highly specialised than veterinary. But there is also a very large number of handbooks upon general medicine, surgery, and pathology—so many, in fact, that it is difficult to think that the majority can have any great circulation. It may be, of course, that medical men are more generally studious than we are. Or it may be that their profession holds a larger proportion of men rich enough to indulge in authorship as a hobby. The latter hypothesis would explain both the output of books and the fact that so many attain a sequence of editions.

Our own literature still shows room for improvement; but it is incomparably richer now than a quarter of a century ago. Many of us can remember the time when our stock of books was meagre in the extreme; but, among some superfluous works, we now have many really good ones. It is true that some of the best, such as the standard works of Chauveau and Neumann, are translations. But they are available to English readers; and their number is increasing every year.

There are still many gaps in our literature that might be filled, if only the right men would undertake the work. There are special diseases well worth separate treatment—for instance, now that bovine tuberculosis is being fairly taken up by the State, it surely deserves to be made the subject of an English work comparable to the recent German one of Ostertag. Of wider subjects, we have room for a full manual of toxicological botany—there is a first-class American work upon the subject, but one devoted to the flora of the British Isles would be preferable. There is room, too, for an authoritative text book upon forensic veterinary medicine and surgery—such works exist upon the Continent, but the subject demands separate treatment for each country. We could point to other such lacunae, but in most instances they could only be satisfactorily filled by men having special knowledge, and in some—as in the two last we have quoted—collaboration from outside the profession would be advisable.

PYELO-NEPHRITIS IN A FOAL.

In April last I was called to a valuable thoroughbred foal a few weeks old, whose dam was dead, and which had been brought away from the stud-farm where it had been foaled. It had to be taken in a cart from the railway station and next day was unable to get up, was suffering from profuse diarrhoea and was lame on the off hind leg. On examining the navel it was found to be still open and pus could be pressed out of the orifice, though no urine escaped from it when the foal urinated. Evidently it was a case of navel-ill.

The foal readily took from a bowl, milk and eggs beaten up with it. The diarrhoea was controlled by bismuth hæmatoxylin and resorcin.

Nuclein was given hypodermically, and the navel orifice was daily syringed out with a strong solution of chinosol. The stifle and the hock of the off hind leg were swollen and the foal was very lame on that leg. Subsequently the elbow of the near fore leg became swollen and hot and no weight could be put on the limb. However, none of the articulations suppurated, and in the course of a month the foal had, to all appearance, made a complete recovery, and was turned out to grass every day, where it galloped about apparently in perfect health. It now took crushed oats and hay, as well as milk. The navel was dry and painless to pressure.

This satisfactory condition lasted about ten days when swellings were noticed about the head, breast and abdomen; in a day or two food was refused, a violent attack of colic seized the little patient and it died. While the colicky pains were severe I passed a catheter and withdrew about a quart of yellowish urine of a high specific gravity but fairly clear.

On making a post-mortem examination the urachus was found to be greatly thickened, inflamed and hæmorrhagic, the bladder was empty, its walls thick and the mucous membrane swollen, pulpy and very red. The kidneys were greatly enlarged and in each the pelvis was distended by muco-pus, while the kidney tissue was flabby and friable, and it was difficult to distinguish between cortex and medulla.

A rather disappointing climax to what appeared to be a pretty successful case.

W. R. DAVIS.

UNUSUAL SUSCEPTIBILITY TO COCAINE.

A brown gelding, aged 8, and 14.1 hands high, was brought into the College to undergo Plantar neurectomy; 5 c.c. of a solution of Cocaine hydrochloride dissolved in equal quantities of water and Adrenaline chloride (1 in 1,000), were injected over the site of the high operation, half over the inside, and half over the outside nerve. The solution contained two and a half grains of Cocaine. A few minutes later the horse became restless, and began to sweat very profusely. There was marked trembling, slight twitching of the muscles of the hind-quarters, and some unsteadiness of gait. The animal was somewhat hyperæsthetic to touch, etc. Respirations were short, hurried, and to a large extent abdominal. Temperature was 101° F. Pulse was 50 to begin with, hard and strong, later it dropped to 40 and was somewhat irregular. After a while, the nervousness subsiding somewhat, the operation was proceeded with, in the standing position, and was successfully carried out, being marked by no untoward incident. The symptoms gradually disappeared within half-an-hour. The animal was rubbed down, dried, and afterwards discharged. He was in good condition and suffered from no obvious disease, likely to render him unusually susceptible to the action of the drug. There can be no question as to the Cocaine not getting into the blood-stream, because (1) there was no flow of blood on the insertion of the needle, and (2) its local action was perfect, no sensation being present. The animal was of a nervous disposition and it might be said that the symptoms were due to the handling associated with the injection of the Cocaine. This is negated by the fact that although subjected to similar handling during the operation, the symptoms did not recur.

R. S. LITTLE.
D. STARKEY.

Royal "Dick" Vet. College,
Edinburgh, May 30.

EMPIRICAL THERAPEUTICS.

In Ireland, as elsewhere, one comes across many and wonderful "cures." For many years I was a Scoffer, but latterly I have been an interested observer and listener. I have come to the conclusion that there is an odd grain of wheat amongst the chaff. I would suggest that veterinary surgeons could have a worse pastime than trying to extract the "grains of wheat." I will give a couple of "cures" which may interest practitioners, helminthologists and biologists.

Tobacco is used as such, and also as a widely used proprietary article with a fancy name, for cattle known as "piners"; and cattle suffering from chronic diarrhœa. I have ample proof that the average "piner" in Ireland is a beast which shows no sign of disease by ordinary post mortem methods—but that the disease is caused by a minute strongylus well known to veterinary surgeons.

These "piners" mostly suffer from chronic diarrhœa, but a percentage do not show any digestive derangement. "Cases" are found on low-lying farms, or on farms bordering on lakes, rivers or marshes, or in cattle that have been fed on flooded hay. It is usually supposed that the complaint is beyond the skill of the ordinary veterinary surgeon—I have recently had the privilege of investigating two cases.

Case I. A pure bred Shorthorn Heifer had been unthrifty all winter with occasional diarrhœa; various remedies had been used, but the animal went away to a skeleton, scarcely able to walk. The farmer used the proprietary article, which he describes as mostly made up of tobacco; its effect was marvellous. The animal began to improve at once at time of writing she is fit for beef.

Case II. A two-year-old cross-bred bullock had been suffering from diarrhœa on and off for two months, many doses to stop the purging had been tried, but the animal gradually got thinner and weaker. A quarter pound of black cut cavendish tobacco was boiled with two quarts of water, and divided into three parts—one-third was given each day for three successive days—the diarrhœa gradually improved, and a week after the first dose the faeces were normal. The animal was carefully fed for a month or so, when it was sent to grass. At time of writing he is as good a beast as one could wish to see.

It will I think be agreed that the therapeutic value of tobacco is worthy of some study. There is no reason why we should sit with our arms folded and scoff at proprietary articles, whilst the owner of the latter makes himself rich at our expense.

Stagnant Water. I have heard from time to time of cattle being cured while suffering from redwater, with stagnant water, or stagnant beer; rotten beer has long since been regarded by some people as a sure cure.

I had the opportunity of verifying one case, a young three-year-old stripper cow was apparently in the last stages of redwater, looking very miserable, with sunken eyes—a case in which those experienced with the disease gave an unfavourable prognosis. This animal was driven into a field in which there was a tub of water. The water had been in the tub for at least two weeks, there was green slime and a bad smell present. The cow was thirsty and the day warm, so she drank most of the water. Next morning the urine had cleared considerably—on second day it was quite clear; the cow made a good recovery. I have sufficient collateral evidence to convince me that stagnant fluids are of great benefit in the treatment of this disease.

Note. The piroplasma of Redwater would, I suppose, be called animalculæ by common people. Biologists would probably agree that the fluids evolved by the animalculæ in the stagnant water might have some toxic effect on the piroplasms in the red blood corpuscles. The time may not be far distant when all kinds of animal parasites will be dislodged by the effete material of parasites of like

nature. The depraved appetite noticed in horses and dogs suffering from intestinal worms may have more in it than appears at first sight. It is just possible that the patients are in search of nature's antidote in the form of animalculæ and their excretions.

J. G.

ABSTRACTS FROM FOREIGN JOURNALS.

THE INFLUENCE OF THE PINEAL GLAND UPON THE GENITAL ORGANS.

Grigorin Cristea reports (*Münchener Mediz. Wochenschr.*) the results of his observations upon young cocks, from which he successfully removed the pineal gland. He operated upon thirteen birds, and twelve of these remained alive for seven months.

The observations showed that there is a close connection between the pineal gland and the genital organs, which can probably be attributed to the action of the internal secretion of the pineal gland. The cocks operated upon showed a striking arrest of development in the genital characteristics of the comb, wattles, spurs, voice, etc.; and the growth of the feathers was also decidedly slower than in the case of control birds which had not been subjected to operation.

The appetite and the bodily development were not visibly prejudiced by the operation, despite the fact that the birds showed marked apathy and loss of interest in their surroundings. Examination of the testes showed a pronounced atrophy in the case of the operated birds, which testified to a direct influence upon the testes of the removal of the pineal gland.—(*Münchener Tier. Woch.*)

THE QUESTION OF "PATERNAL" TUBERCULOSIS.

Nestor and Valsanu record (*Münchener Mediz. Woch.*) experiments they have made to determine whether an hereditary transmission of tuberculosis from father to offspring takes place. They subjected male rabbits and guinea-pigs to subcutaneous, intravenous, and *intra-testicular* injections of tubercle bacilli of bovine origin, and then coupled the males so treated with healthy females. In so doing, they were careful to exclude the possibility of tubercle bacilli and suppuration from the site of injection. The result of the experiments has led the authors to the conclusion that a direct transmission of tuberculosis from father to offspring by the hereditary route does *not* take place.—(*Münchener Tier. Woch.*)

BASEDOW'S DISEASE (EXOPTHALMIC GOITRE) IN THE DOG.

Hebrant and Antoine record a case of this rare condition. They have had charge of the clinique for small animals at the Belgian Veterinary School for nearly fifteen years, and during that period this is only the third time they have encountered the disease. Moreover, the two preceding cases were only very slightly marked ones. Four other cases

have been recorded in the dog by Jewsejenko, Lellmann, Sonnenberg, and Albrecht; and of these Albrecht's case is quite a characteristic one.

The subject of the present note was a male collie, three or four years old, and very plump in condition. He had already been in the infirmary, some months before, for symptoms similar to those about to be described, but after being kept quiet for a few days, he had recovered to the extent of being able to return home almost cured. This short period of treatment did not enable the authors to arrive at a precise diagnosis at that time. Diagnosis was rendered more easy, however, when the animal returned presenting symptoms identical with the former ones, only more accentuated.

When admitted, the dog showed very marked exophthalmia of both eyes, the left eye being a little more severely affected than the right. In addition to the abnormal projection of the eyeballs, the conjunctivæ were very red; and that of the left eye showed a fairly large ecchymosis, probably traumatic in origin. Close observation showed that convergence of the optic axes was difficult if not impossible, which might be due to a slight paralysis of the internal straight muscles of the eyes. The eyeballs themselves showed some difficulty in movement, there was therefore a slight ophthalmoplegia.

The history (from a professional colleague) was that the ocular symptoms had commenced by a slight engorgement of the temporo-maxillary region, with difficulty in closing the mouth. Then a little palpebral œdema had followed, and then protrusion of the eyeballs.

The owner's account was that the dog had for a long time been very sensitive and impressionable; he was changeable and often agitated in behaviour. He was nervous and distrustful towards all that surrounded him, and could only be approached and examined with great difficulty. He also showed muscular tremors, which were especially localised to the thighs and abdomen. These could not be ascribed to fear, for they were seen when the animal fancied himself alone and unobserved.

The pulse was regular, beating 120 to the minute; its artery was well filled, and its pulsation was ample. There was, however, no hypertrophy of the heart. This tachycardia was accentuated by movement, fatigue, or excitement.

The respiration was accelerated, but actual dyspnea was not shown.

The dog ate well, but showed perversion of appetite. Finally, there was a very slight diffuse hypertrophy of the left thyroid body, without appreciable cystic degeneration.

The authors diagnosed Basedow's disease. They would have advised operation (partial thyroidectomy or exothyropexy), but eight days elapsed before they were able to propose this course to the owner. During that time, under treatment by iodides, the exophthalmia retrogressed so much that the dog appeared recovered, and he was then taken home by the owner. These intermittences and apparent recoveries are usual in the early stages of Basedow's disease, but they are followed by recurrences of a permanent nature.

Less than a month after his discharge from the infirmary, the dog was brought back on account of grave ocular symptoms, compromising the eyesight. Each cornea showed a non-perforating ulcer; while both the crystalline lenses were opaque. The animal could no longer see. The authors regarded these lesions as the secondary result of the passive congestion of the eyeballs which had accompanied the exophthalmia a few weeks before.

The animal had retained all the previously described symptoms of the disease—tachycardia, very great sensitiveness, tremors, and slight hypertrophy of the thyroids. The exophthalmia alone had not yet re-appeared.

The authors instituted their usual treatment for corneal ulceration. Convulsions appeared, however; and these, proving refractory to treatment, soon became continuous and caused death within two days. The authors think that an abnormal secretion from the diseased thyroid had produced this effect, by impregnating the nervous centres and thus first causing the extreme sensitiveness, and finally the convulsions.

Post-mortem, the nervous centres showed no appreciable alterations; and there were no lesions in any of the other organs, except the thyroid bodies. These were hypertrophied, and, although firm to the touch, were gelatinous in aspect. Microscopical examination of them yielded no very particular results. The thyroid appeared with its usual structure, showing very voluminous thyroidal vesicles, with an epithelial lining more flattened than is normal. The blood vessels were well marked and dilated. A typical parathyroid existed at the surface of each thyroid, and two very reduced parathyroids in the thickness of the organ. In all sections they examined, the authors failed to find the "lymphatic islands" which have been regarded in human pathology as the essential cause of Basedow's disease.—(*Annales de Méd. Vét.*)

W. R. C.

LIVERPOOL UNIVERSITY VETERINARY MEDICAL SOCIETY.

A meeting was held on May 30th: There were present Messrs. J. P. Heyes, President; E. J. Burndred, G. H. Locke, W. J. Fletcher, J. W. Brittlebank, E. H. Stent, J. Share-Jones, R. F. Watson, Wm. Woods, F. S. Warburton, J. B. Wolstenholme, T. Dobie, E. F. Wood, F. A. Ball, Hy. Holdroyd, H. G. Hewetson, H. Sumner. Visitors: Messrs. F. C. Lewis, T. G. Millington, A. M. Munro. A demonstration was given by Prof. Beattie bearing on the Tuberculosis Order, 1913.

PROF. BEATTIE: Mr. President and Gentlemen,—In the first place I want to thank you for the opportunity you have extended to me of giving this demonstration, because I think at the present day something more drastic is needed in regard to the examination of milk, and I feel that the suggested examination by microscopical methods only is a definitely retrograde step.

After a prolonged experience I am convinced that the inoculation method is the only one by which we can accurately determine the presence of tuberculosis in milk. This I wish to demonstrate, and I hope to prove my case to your satisfaction.

A specimen of milk recently came before us taken from a cow which was regarded by the veterinary inspector as a suspicious case of tuberculosis. We examined it microscopically, and we found acid-fast bacilli resembling the bacillus of tuberculosis. I was not satisfied that it was bacillus tuberculosis, but the resemblance was so close that I could not give a definite opinion, and other observers of considerable experience thought it was B. tuberculosis, but by a series of inoculations we found that the animals showed not the least sign of tuberculosis.

The next case is, perhaps, more interesting. The milk contained acid-fast bacilli, and the inoculated animal showed an enlarged gland with cheesy pus. This pus contained large numbers of acid-fast bacilli, but after careful investigation of this organism we found that it was not B. tuberculosis; as a matter of fact it grows on ordinary agar media in 24 hours, and presents other features which are quite unlike B. tuberculosis. From the microscopical specimens which I show, I think anyone will admit it would be extremely difficult to distinguish it from the true tuberculosis bacillus.

Here, then, we have two cases coming to the laboratory within a month in the ordinary routine of our work, both giving sufficient evidence, I think, that trusting microscopic examination only there is great liability to err.

In my opinion any authority which dispenses with the inoculation method is doing a very dangerous thing, going back to the old status again when tuberculous milk will undoubtedly be sold, and the public will be under the false illusion that its milk supply is being carefully guarded from infection.

Another point I want to illustrate is the method of examination. I consider that the examination is unsatisfactory unless a considerable quantity, at least 100 c.c. is used, and that quantity centrifuged and the deposit from it examined microscopically and inoculated into animals. I show you two specimens which we obtained from a shop to-day, and you see in the centrifuged sample the deposit which actually contains blood, and this in spite of the strict precautions we have in Liverpool.

There is another point not sufficiently emphasised—I mean faecal or dirt contamination. I am one of the heretics who believe infantile diarrhoea is largely due to contamination of our food supplies with B. coli and the ordinary organisms, and not necessarily to some special bacillus; and our aim should be not merely to get rid of B. tuberculosis in our milk, but also to get rid of the dirt with its associated bacteria.

More stress ought to be laid upon examination for, particularly, B. coli as an indication of want of cleanliness in the milking process. In fact I will go the length of saying that it is equally, if not more important to get rid of dirt in our milk than to get rid of B. tuberculosis.

There is so much tendency in these days of specialisation for those in authority to concentrate on one thing and leave others alone. These dirt organisms should be energetically dealt with, and if we are to deal effectually with the tuberculosis problem I am convinced that a fatal error will be committed if the method of microscopical examination is substituted for the inoculation procedure: or even if the microscopical method is given much prominence.

(Prof. Beattie with the aid of microscopes showed different specimens of tubercle and other acid-fast bacilli in milk).

MR. WOLSTENHOLME asked Prof. Beattie what proportion of acid-fast bacilli he found in milk which turned out not to be tuberculous.

Prof. BEATTIE: In regard to the proportion of acid-fast bacilli, I am afraid I cannot give you the proportion. As I have pointed out, during microscopical examination we had two cases of this kind which were definitely proved not to be true tuberculosis, and during the same period we had not more than four cases of true tubercle. Even the most enthusiastic supporters of the microscopical method admit 10 per cent. of failures, and why should we adopt a method which is erroneous to that extent.

Mr. WOLSTENHOLME: Of course the point of my question will be quite apparent. There must be some methods or mode of procedure to more or less relieve the minds of the veterinary surgeons as to whether a certain cow is giving milk containing bacilli of tuberculosis. Should the examination for acid-fast bacilli be unsuccessful there would be another method. Send every sample of milk of which we had the least suspicion to a public institution and wait whilst they make an examination for acid-fast bacilli in the sample. Wait five or six weeks until this method I am now sketching is complete, until distinct proof has been obtained by means of inoculation. My opinion is that preliminary examination is a very good thing, and somebody who is fairly capable should examine, and if any acid-fast bacilli are found, then submit the sample to the institution for experiment. We cannot say definitely whether they are non-tubercular or tubercular in these examinations.

From one point of view it would be almost better to assume that any milk which gives acid-fast bacilli is tuberculous, and at once condemn the cow. From my point of view I would condemn the cow straightway without any further examination. There is a difference between a cow being destroyed and parts used which are fit for food, and the risk of human life, from going on using milk for five or six weeks which is definitely giving acid-fast bacilli. The former method is far preferable. A rough method to apply to further tests is fairly practicable.

Prof. BEATTIE: I quite agree with what has been said in relation to that. If you are going to destroy every cow in which you find acid-fast bacilli, I quite agree that you are helping to get rid of tuberculosis, but you have got to take into consideration that if you adopt the microscopical method alone, you fail to detect 10 per cent. of the cases, and you are still supplying tuberculous milk. It seems to me a much better plan to isolate the cow in which you find acid-fast bacilli for five or six weeks, until you have got your report. If not tuberculous, the farmer or dairyman should be compensated for the loss he has sustained in not being able to sell his milk. If it is tuberculous the animal could be slaughtered and, of course, he would have no claim for compensation.

Mr. WOLSTENHOLME: Another practical solution. Supposing the law empowered the use of tuberculin test in the case of every cow producing acid-fast bacilli.

Prof. BEATTIE: Again I am afraid I could not agree that this would be satisfactory for the tuberculosis indicated might be in any part of the body and the udder be quite free.

Mr. BURNDRED: Do you consider that these acid fast bacilli are present in milk drawn from the udder or that the milk is contaminated later.

Prof. BEATTIE: Well, my view is that the acid-fast bacilli get in as a result of contamination, but one cannot deny the possibility of the bacilli coming from the udder.

Mr. BRITTLEBANK: I should like to ask Prof. Beattie under what conditions samples of milk examined have been collected. Whether in collecting samples a system of cleaning the udder or the teat is adopted? I must admit the extreme interest of what has been said. It was our experience in the early days to find these acid-

fast bacilli which were not tubercle bacilli. In recent years, so far as my own cases are concerned, we never had a case such as reported here. The method always adopted in the collection from the suspicious udder is first of all cleanliness of the teat. Scientific cleanliness is not always possible. Then a considerable quantity of milk contained in the udder is rejected before proceeding to take sample: then we have found we did not get these conflicting acid-fast bacilli. So far as the 10 per cent. of failure is concerned, Professor Delépine, I think, last year, found his microscopic methods accurate in 90 per cent. cases.

Some years experience of the practice of this special method of collection of the milk helped very considerably from an administrative point of view. One knows perfectly well it would be insane to do away with inoculation tests. The difficulty of asking a man to isolate a cow for five or six weeks is great. The natural result—and what oftener followed—is that the cow lost condition from being put away after being used to the society of other animals.

So far as my practical experience takes me, having done a considerable number of bacteriological examinations of milk myself, I agree that having found acid-fast bacilli, I urge the farmer to get on with killing his cow, and in a large series of post-mortems we have never been wrong. It may be that this is due to the careful work of Prof. Delépine, and I want to pay every tribute to him for the work which he has done. There is no doubt that microscopical examinations have helped us enormously in carrying on administrative work. Those 10 per cent. of cases which Prof. Beattie referred to should be provided for by the Tuberculosis Order.

We do not presume men in everyday practice will find anything like even 50 per cent. or 60 per cent. cases to be tubercular, and if there is any doubt we should go further and submit the case for further bacteriological examination.

Prof. BEATTIE: I am in no way responsible for the method of collecting samples, and I confess I am not satisfied with the methods we adopt. I agree with the speaker that it is the extreme care taken by my friend Prof. Delépine which gives him 90 per cent. of success, and if we were having the work done by such careful and experienced men, perhaps my views would be modified, but the work is to be done by many people who will not take that care, and the result will be that we shall have numbers of cases of tuberculosis missed altogether.

Mr. BRITTLEBANK: Tubercle bacilli can be found in mixed milks. In early days when many cases were closely inspected the results were very considerable.

Prof. BEATTIE: With regard to the question of isolation I do not suggest that the farmer or the dairyman should isolate, but that the local authorities should take charge of the cow. They should take it away altogether. It is their duty to do so, and to remove the temptation to the farmer to use the milk when nobody is looking.

Mr. FLETCHER: Would Prof. Beattie tell us whether we would be more likely to find tubercular bacilli in the first milk, the second, or the last stripping. In Scotland, I believe, they are in favour of the middle milk, but our people in Manchester are in favour—strongly in favour—of the stripping.

Prof. BEATTIE: I have not considered the question, but I incline to the view that the last milk is more likely.

Mr. BURNDRED: In one of your examinations at Sheffield a sample of milk was taken and you certified the presence of one acid-fast bacillus, but would go no further. We were very suspicious of the cow, and it was isolated for just over three weeks, when your results of the inoculation tests were sent in as being non-tuberculous. The owner came down to the Health Office, and I persuaded him to bring it down to the

abattoir, have it slaughtered under his own hands, and sell to a butcher and take the risk of it passing muster. The best explanation that can be found for this sample of milk containing very few bacilli is that, at that time probably what few there were had been taken out and put on the slide.

Prof. BEATTIE: The probable explanation is that in the milk sent there were no *B. tuberculosis*. There may not have been sufficient pressure on the tuberculous area to cause any *B. tuberculosis* to be ejected. I feel very strongly that the clinical side must be associated with the bacteriological, and if the clinician is fairly sure of tuberculosis, and acid-fast bacilli are found, then I would have no hesitation in slaughtering the cow.

Mr. FLETCHER: In the Order the word discharges was used. It does not say exactly what the discharges are. They may be discharges from the lungs by coughing—a discharge of mucus, or the discharge from diarrhoea. I would like to ask whilst mentioning diarrhoea—as it is now common knowledge that you get tuberculosis of the bowels with diarrhoea—whether or not it should be considered suspicious of that disease.

The PRESIDENT: The question put by Mr. Fletcher has been in my mind and I would like some information from Prof. Beattie. One encounters many cases which give rise to a suspicion of tuberculosis, one can easily perceive pathological organisms being responsible for such conditions of the lungs or bowels. If the animal is in an advanced state of disease, one would rely upon the tuberculin test. One would like to know how to proceed to satisfy himself that he was dealing with tuberculous or other lesions. It is a difficulty I have experienced and I ask now for information as to whether one ought to look for a discharge such as Mr. Fletcher has referred to would justify a positive or negative opinion.

Prof. BEATTIE: In relation to these matters I should say if you have got an advanced state of tuberculosis in the intestine or in the udder, you should search the faeces and the milk for *B. tuberculosis*.

Mr. SUMNER, in proposing a vote of thanks to Prof. Beattie, said: I think we all acknowledge our gratitude to him for his excellent address to-day. Although it is so hot and veterinary surgeons in this season are very busy indeed, it is evidence that we all take great interest in the subject by turning up in such goodly numbers to-day. I have no doubt a great many members of this Society would like to have been present who are unavoidably absent. Our Secretary had to go away, and he expressed his great regret.

I am perfectly certain I am voicing the opinion of the audience when I say we are greatly indebted to Prof. Beattie for the very lucid demonstration and his answers to the questions that have been knotty problems for some of us.

The PRESIDENT: I am asked to say that Prof. Beattie will be very glad to take the members over to the laboratory and show them several of the processes.

Prof. BEATTIE: I simply thank you very much. I really need no thanks. My feelings are very strong on this subject. I am extremely grateful for the critical questions put to me, and one has a pleasure in being cross-questioned so much. Then with regard to the invitation to visit the laboratory may I extend it further, and say that at any time any of the members come up to the laboratory, I will show you not only the method, but also the apparatus at work.

PRESIDENTIAL ADDRESS.

By Mr. J. P. HEYES, F.R.C.V.S., Wigan.

Gentlemen,—First let me say how pleased I am to find myself in the honoured position of President of the Society. I look upon it as a great privilege to be

selected to follow in the footsteps of such men who have adorned this chair—men who have in the face of many difficulties helped to make this Society a means of providing facilities for the scientific advancement of its members, such as are not excelled by any other Veterinary Medical Society.

It is my earnest hope that during my year of office I may see an ever-increasing desire on the part of our members to contribute to the success of our meetings by attending regularly and bringing such specimens or notes of cases as are likely to be of more than ordinary interest.

It may not be inopportune here to refer briefly to the opportunities that exist in connection with this Society for assisting practitioners in arriving at a correct diagnosis of such morbid conditions as require an exhaustive laboratory examination.

Those of us who try to put our knowledge of pathology or bacteriology into practice should make use of the laboratory to confirm or negative our opinions. It will interest the members of the profession in this district to know that a special course has been designed in the University to meet the requirements of veterinary inspectors under the Tuberculosis Order.

The value of association by members of our profession has never been exemplified to a greater extent than during the past few months. The coming of the Tuberculosis Order of 1913 caused veterinarians all over the country to seek counsel with each other, and the Veterinary Medical Societies were soon recognised as the best media for obtaining enlightenment as to the meaning of this very important Order. I don't think it is any exaggeration to say that it is one of the most important steps in connection with preventive medicine in the history of the veterinary profession.

Many of us have for years been racking our brains for an efficient and yet practicable means of eradicating tuberculosis from amongst the cattle of the country, and probably everyone who has given the matter much thought has conceived a plan for dealing with this disastrous disease. I think it will be generally admitted, however, that no course could be on the whole more likely to produce the desired result, and at the same time be more acceptable to the stockowner and the people of the country than this which has emanated from the Board of Agriculture this year.

I do not propose to address you at any great length to-day, because like many another man here, I am very very busy in practice. It is as far as I had got for this presidential address. Like lots of other men I have been going through points I had intended to go into at this meeting as I have driven through the country—speeches, political, professional, and otherwise, have been prepared for some time. The slaughter of all tuberculous cattle was recommended years ago by the then leaders of the profession, but it was recognised as practically impossible when it was discovered that such a large percentage of the cattle of this country was affected with tuberculosis. It is therefore obvious to all who had made investigations in the subject of tuberculosis that the best method of procedure was to slaughter all those clinically affected animals, as the greatest source of danger, and I take it the object of the framers of this Order is to slaughter clinically affected animals chiefly.

Now, the administration of this Order appears to be placed in the hands of veterinary surgeons and quite rightly, and the veterinary inspectors of the country have been very busy for many weeks getting into harness to try to do the work to the general satisfaction of those who employ them in the country, and I have no hesitation in saying the veterinary surgeons of the country will be quite equal to the task imposed upon them. I am perfectly certain that any man who has the privilege of being a veterinary inspector realises his responsibility.

It must be remembered that we are only now starting—only at the commencement of a period when we are trying to deal fairly and practically with the reduction of tuberculosis. As time goes on we shall acquire better means of diagnosing tuberculosis, and we shall be able to definitely say whether an animal is tuberculous or not. I am not so much concerned whether veterinary inspectors are able to carry out the work, I am concerned how the work is being done by veterinary inspectors—in fact, who the veterinary inspectors are going to be. Veterinary surgeons begin to ask themselves whether it is not the best course—now that so many diseases are scheduled under the Contagious Diseases Act, so many duties given over to veterinary surgeons, now that the public are clamouring for veterinary surgeons to inspect food and animals giving food, and assist medical men in the country—to consider the question of whole-time men for these appointments. This is work of very special line and work that men ought to devote a great deal of time to study.

Very good work has been demonstrated this afternoon by Prof. Beattie, work that requires very great care, and if we are to do ourselves credit in carrying out this work is it not our duty to support the appointment of whole-time men to do it? There is no insuperable difficulty of creating such appointments. There is not a staggering amount of cost involved, and I don't see why we as a profession ought not to voice our opinions and say we prefer that whole-time men should do this work, men who are in practice now. Veterinary inspectors may think it will be hard upon them and that they would be losing something. I venture to say they would gain something by closer inspection of animals. The services of veterinary surgeons will be requisitioned. I feel confident he will benefit in the end. Again, it is not fair to the veterinary surgeon engaged in practice who is not a veterinary inspector.

The diseases scheduled under the Contagious Diseases Acts call for the frequent visit of a veterinary inspector to all cowsheds and stables, over which he has supervision. I think I am not the first to say that certain veterinary surgeons do not care to have to compete with veterinary surgeons visiting the yards of their clients. In fact I remember a statement a very short time ago to the effect in connection with insurance.

Another way in which the usefulness of Veterinary Medical Societies have been evidenced lately has been the desire on the part of certain societies to fix charges for certain classes of work. I think we ought to consider it undignified as professional men to charge ridiculously low fees for some of the services that we are called upon to perform. It is often done, we must admit that there are men who only charge low fees and when they are supplanted, somebody has made a lower charge than they. That is an argument in favour of veterinary societies. Regarding the question of what shall be minimum fees for certain services, I do not see how you can tie a man down to these things, but in the legal profession there is a recognised standard of fees, and I do not think it would be out of place for us to fix a standard. It would assist in many ways, for instance insurance fees paid by insurance companies have been discussed by men of veterinary societies. We could say to the insurance companies, "Here is our fixed charge, these fees are fixed by the veterinary societies of the country." I do not propose to say anything further except to thank you again for inviting me to occupy the position of President this year. (Applause).

Mr. BRITTLEBANK. Mr. President and gentlemen,—In the first place may I congratulate you, as a fellow-member of this and of another Society such as this, on the position you occupy to-day. This Society will not only gain in prosperity, but in enthusiasm. I do not propose to enter into any political questions which you have raised; I hope for the present to confine my poli-

tical views to a narrow circle. I am concerned more particularly for the time being with the Society we have formed in the country—the National Association of Veterinary Inspectors—which we hope will meet with the support of all veterinary inspectors in whatever branch of work they may be concerned. This Association is absolutely non-militant, but has for the basis of its foundation the hope that by combination and discussion we may arrive at a uniform system of working and incidentally improve the positions of all veterinary officers, either whole or part-time, who are engaged in public work. We have a membership up-to-date approaching 200, and hope very soon to include every veterinary inspector. Whatever branch he is connected with, every man should be a member of that Association, and it will be an important factor in the history of the veterinary profession.

In so far as the President has referred to the Tuberculosis Order, it will be seen that he, like many of us regards the Order as a necessary preliminary to some legislative procedure of far-reaching character. How soon we can advance will largely depend upon the acumen and diligence with which this order is carried out by the veterinary profession.

Undoubtedly something was absolutely necessary, shall I say to co-ordinate throughout the country the efforts which are being made to deal with this the greatest scourge of the farm, and it must be admitted on all hands that the time was fully ripe for some measure, however limited its scope might be, to start this campaign for the reduction of Bovine Tuberculosis.

The Board of Agriculture in their legislation distinctly deal with two or three classes of Tuberculosis, and these which are notifiable are tuberculosis of the udder, tuberculosis with emaciation, and animals which have a discharge which is tuberculous. I take it that a cow coughing up tuberculous material, a cow with tuberculous discharge from intestine or uterus, or a discharging tuberculous joint would come into this category, so that, if the full resources of bacteriology were at our disposal the scope of action would be very wide.

I need not refer in detail, I think, to the various articles of the order if most of you will have read them. Article 2 requiring notification is the same as in any of the other orders made under the Diseases of Animals Acts, and Article 3 requires notification from the private practitioner who may be in attendance. The next section, or rather Article 4, is a far-reaching one, and provides for the inspection and examination of animals; and one aspect of this article I might refer to which is somewhat outside the general work of the average veterinary inspector. You will notice that the wording of the beginning says, "Where a local authority by reason of information received under the preceding articles or otherwise," and what I have in view is that there will be many local authorities who have mixed samples of milk examined for tuberculosis, and in the event of the source of such a sample being outside the area of that local authority—they would notify to the local authority concerned, the fact that a certain farm was sending tuberculous milk, it would then be necessary for the veterinary inspector of the local authority concerned to visit such a farm and arrive at a conclusion as to the particular animal or animals which are producing the infection, such inspection will have to be very carefully made for the authority notifying the infection will be certain to take control samples for further biological examination to see that the infection has been removed. On the other hand, those authorities who have the milk clauses will still send their own veterinary surgeon wherever the farm may be situated.

The clause particularly which is of some moment is Article 6, which deals with valuation for compensation. I do not want to criticise the Order, we are here to discuss it: criticism at this stage may have destructive

rather than constructive effect. In this compensation, as most people know, we see that there are two values required. The animal has to be valued first of all as a potentially healthy animal, and in the second case as a tuberculous one. The first valuation is comparatively simple. You take the animal as she stands, she may be in good condition, very likely in poor condition, and you make your valuation, not as what she was before she became in poor condition, but as she stands. The second valuation seems to me to be the most difficult, and as far as experience takes one, I would suggest you make the first valuation reasonably liberal, because if you make a mistake and the cow after a post-mortem is found not to be tuberculous, it is only fair that the owner should receive compensation, on a fairly liberal basis, plus the £1 which is provided for.

While making such valuation you may be suspicious that it is not tuberculosis alone which is responsible for the condition found and in such case you can, if applicable, make use of Section 2. Article 6, which is as follows: "In ascertaining the value of an animal, regard shall be had to any Act, Order, or regulation dealing with the scale or use of milk, milk products, or carcasses for human food."

It is perhaps somewhat unfortunate that it is legally established that there is money value attaching to tuberculous animals and the valuation of these animals, satisfactory alike to the owner and the local authority will not be easy to arrive at, but I have little doubt that the practical men concerned will not meet with difficulties which are insuperable. The only method I know of valuing such animal is to take her in the position that you see such animals in the large auction marts in the country, you see them in considerable numbers—animals which include mildly suspicious cases—brought by a class of individuals who fully recognise the financial risk they are running in the hope of getting one out of three passed, and practically reimbursing them with a certain amount of profit. This seems plain sailing enough, but take a case such as one commonly meets—a cow suffering from tuberculosis of the udder, clinical evidence that both lungs are affected, the cow is in excellent condition, in fact to the untrained eye she is a big healthy cow. As far as I am concerned I could not place any high value on such an animal, acting in the light of my experience, and an owner might, and no doubt would have a grievance. I have been asked to refer to the post-mortem assessment, but I do not really see any difficulty about this part of the Order, as under Article 8, the conditions are clearly laid down, and I think wisely so, for they leave no room for difference of opinion, which is something to be thankful for.

Certain points which have arisen recently, and which might be of some practical interest, dealing with a phase of our work, which has been made a good deal of. I think it has been the general impression among many veterinary surgeons that under this Order there would be a great amount of tuberculin testing necessary. As far as I am concerned, I do not see, under this Order, where the real necessity is for any extended use of the tuberculin test. In fact, as a matter of tactical procedure it is advisable for the veterinary inspector to refrain from testing as much as possible, at any rate at the outset. He should make it his mission to deal with the case from a clinical point of view, and in the case of milk, by bacteriological examination—or if necessary, biological examination, and it is certain that however skilful a man may be, it will be necessary in many cases to resort to the inoculation of the guinea pig.

There is, however, a class of case which will be met with in practice where an animal becomes emaciated from apparently very indefinite cause. These occur in no particular class of animal. The only marked evi-

dence which you have before you is wasting; examination of the lungs reveals little, palpation of the udder nothing. This is the class of case which it seems to me will require the application of the tuberculin test. There are many conditions which simulate tuberculosis and are produced by a variety of causes. Those particularly interested in dairy cattle will readily bear me out in this. Many a time one has found, particularly in newly purchased animals a cow which shows every symptom of tuberculosis—wastage, cough, capricious appetite, may be increased temperature, hide-bound starving appearance, and a fretted discharge from the genital passage. These cases under proper treatment as a rule do well, and when the cause is removed, which may be a small portion of decomposed cleansing, the animal gets well and into good condition again very rapidly.

Parasitic and other bacterial conditions producing similar symptoms, and in these cases, even though there may be a slightly elevated temperature, I do not hesitate to proceed to test with tuberculin and am not frightened of using a good big dose; 5 to 6 c.c. of tuberculin, I have frequently used, and with very satisfactory results. There must of course be a margin of discretion so far as elevated temperatures are concerned, and this must be left largely to the clinical acumen of the veterinary surgeon.

Another class of case in which tuberculin will be found useful; and indeed often necessary, is that class of cow which I may designate as old and worn out. They are frequently emaciated, but clinical examination reveals little. I suppose the law of the survival of the fittest holds good, for it is astonishing how free from disease many of these cows are at post-mortem.

I plead here for men to rely as far as possible on their own clinical judgment in regard to the Order. I am perfectly certain it is not intended by the Government that you should be confronted by insuperable obstacles in the way of smooth working of this Order. When difficulties arise you should exercise your ingenuity, without reference to outside people. That percentage of cases in which you find it impossible to find the tubercle bacilli in the milk microscopically, as Prof. Beattie has stated, will be met with, then I think your duty to the community and to the consumer would be to take a further sample and submit it to a biological test. I am also of the opinion that one should lay down a certain definite system for the purpose of examination of milk. Where you have suspicious evidence in an udder you should exclude practically all the milk that is in the cistern, and leave in the udder just as much milk as you think you will require—a matter of from four to six or eight ounces of milk for examination. You should go further, take hold of the suspicious quarter and massage it as much as ever you can, and you need not be particular about it. You may be told that the owner will object. Of course if you proceed to tell him that by collecting the sample in this manner you will be more likely to find the tubercle bacillus, a percentage might object, but so far as my experience takes me, I have yet to meet such a person, and indeed I would remind you that under the Order it is useless for the owner to object; there are provisions in Article 4, Sec. 2, 3, and 4 which amply protect the inspector. You may say that I lay a great deal of stress on this point. Naturally I do, when I have found after fairly extensive practical experience that if you want rapid results in the examination of milk you must deal with the last milk you can express from a suspected quarter or quarters.

There is one other point which I think of sufficient importance to refer to. I know many people think that if an owner notifies a case, and this case has been proved to be tuberculosis, as required by the Order, that the owner cannot slaughter such cow without the consent

of the authority. This is not so, it is clearly laid down in Article 10 (latter part) that the animal may be slaughtered at any time by the owner or person in charge. He would of course receive no compensation.

There are many other interesting features in this Order, but I fear, sir, that I have already sufficiently trespassed on your time and patience. The profession has had a great work placed in its hands, we must proceed warily and with discretion; nothing will be gained by undue haste, and I am confident that the veterinarian will justify the confidence placed in him, and so hasten the time when legislation may be put forward which will take us still further along the path to the goal we must all aim for, and that is complete eradication.

I thank you again, gentlemen, and you particularly, Mr. President, for asking me to open this discussion.

Mr. FLETCHER: I have very great pleasure in rising after Mr. Brittlebank to second the proposition of a hearty vote of thanks to our President for his address. There is a good deal of matter to think about. Mr. Brittlebank has referred to the most important parts I congratulate you upon your address, and I feel sure you will prove a very great acquisition to the Society.

Mr. BARKER, M.R.C.V.S., D.V.H., was unanimously elected a member of the Society on the proposition of Mr. Share-Jones.

Before the meeting dispersed a vote of condolence was passed to the relatives of the late Mr. Faulkner in their recent bereavement.

DISEASES OF ANIMALS ACTS 1894 to 1911, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders.		Parasitic Mange.	Sheep Scab.	Swine Fever.	
	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.			Out-breaks	Slaughtered.*
IRELAND. Week ended June 21	...	...	...	...	...	...	Outbreaks	15	2	19
Corresponding Week in	1912 ...	...	...	...	...	...	2	2	5	43
	1911 ...	...	...	...	...	...	2	...	1	1
	1910 ...	...	...	...	...	...	...	...	...	38
Total for 25 weeks, 1913	...	...	...	...	...	...	90	310	81	493
Corresponding period in	1912 ...	2	2	...	...	...	43	255	133	1245
	1911 ...	5	6	...	...	2	43	240	53	911
	1910 ...	4	7	...	...	1	36	332	52	1277

† These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, June 23, 1913

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

SOUTH DURHAM AND NORTH YORKSHIRE VETERINARY MEDICAL ASSOCIATION.

A meeting of the Sub-Committee appointed to consider the fees paid to veterinary inspectors, was held in the Imperial Hotel, Darlington, on Friday, May 9th, the President, Mr. W. Awde, Stockton-on-Tees, in the chair. There were also present Messrs. G. R. Dudgeon and T. T. Jack, Sunderland; J. M. Walker, West Hartlepool; S. Morton, Middlesborough; P. Snaith, Bishop Auckland; H. Peele, Durham; P. B. Riley, Barnard Castle; G. B. Holden, Scarborough; T. Wilkinson, Lanchester; W. N. Dobbing, C. G. Hill, and J. H. Taylor, Darlington.

The PRESIDENT stated that the meeting had been called to consider the fees which had been suggested by the Executive Committee of the Durham County Council and also to consider the Tuberculosis Order (1913).

The SECRETARY read Mr. Peele's letter, which stated that in accordance with the resolution passed at the meeting of the Association held on March 7th, he had brought the question of the fees payable to veterinary inspectors by the Durham County Council before the Executive Committee of that body. He had had some difficulty in convincing some of the members of that committee that any increase of fees was necessary, but he had received great help in the matter from a doctor who was on the committee, and this gentleman had helped him in putting the matter before the other

members, and thus pointing out to them how inadequate the present fees were.

The committee eventually recommended the following revision of fees, subject to the confirmation by the Council at their meeting in July. He had, however, received a promise that if the suggested fees were agreed upon that they should date as from the 1st April last.

SUGGESTED NEW SCALE OF FEES.

Anthrax.	Visit and inspection of single animal	...	10	6
	Microscopical examination: report and material to Board of Agriculture, etc.	...	10	6
	Examination of contact animals 1/- per head maximum	...	3	3 0
	Mileage 1/- per mile one way, or 1st Class rail fare	...		
Glanders.	Visit and inspection of single animal	...	10	6
	Inspection of contact animals 1/- per head maximum	...	3	3 0
	Mallein test up to four	...	2	2 0
	" after four—for each animal	...	5	0
	Mileage 1/- per mile one way or 1st Class rail fare. Cost of mallein should be refunded on producing voucher	...		
	Mileage for one journey only when applying the test	...		

Tuberculosis. Visit and inspection of single animal ...	10	6
Inspection of contact animals 1/- per head maximum ...	3	3 0
Microscopic examination of milk ...	10	6
Tuberculin test as in glanders		
Mileage, 1/- per mile one way or 1st Class fare		
Cost of Tuberculin should be refunded on producing voucher.		
Parasitic Mange in Horses. Visit and inspection of single animal ...	10	6
Microscopic examination when necessary ...	10	6
Examination of contact animals 1/- per head maximum ...	3	3 0
Mileage, 1/- per mile one way or 1st Class fare		
Sheep Scab. Visit and examination of flock of 125 ...	10	6
Visit and examination of flock over 125, 10/6 for each 125 to maximum ...	2	2 0
Microscopic examination when necessary ...	10	6
Mileage 1/- per mile one way or 1st Class fare.		
Mileage. In all cases to be 1/- per mile one way after first two miles.		

Miscellaneous.

Post-mortem examinations where duly authorised 21/- for Glanders, 10/6 any other disease. Attendance at markets, sales, etc., 10/6. Examination of single animal, or if a number 1/- per head, maximum £1 11 6. Telegrams, postage, etc., to be refunded.

Mr. DUDGEON thought that the Inspector ought to accept the proposed scale of fees, but thought that as regards mileage, 1/- per mile ought to be allowed from leaving home, and not only after one had gone two miles.

A general discussion then took place, most of those present taking part, and it was agreed that Mr. Peele should bring the question of mileage before the Executive Committee and request them to allow the mileage to be charged from leaving the place of business.

Mr. DUDGEON proposed that a hearty vote of thanks be given to Mr. Peele for the trouble he had taken in bringing the whole matter before the Executive Committee. He considered that the suggested scale of fees was satisfactory, and was a great improvement on what had previously existed.

The vote of thanks was seconded by Mr. Walker, supported by Mr. Snaith and carried unanimously.

Mr. PEELE thanked the members and said that he had only been too pleased to render the little service, and naturally he was very pleased with the result, as he had every confidence that the scale of fees would be confirmed by the Council at their July meeting.

Mr. HILL said that he had received a telephone message from Mr. Pratt, Chief Veterinary Inspector to the North Riding County Council, and he wished him to express his regret at not being able to be present at the meeting, as he had been called out to an urgent case. He wished him to tell the members that he had brought the question of fees before the Executive Committee of his County Council, and they had recommended that Veterinary Inspectors be allowed five shillings for the first hour and two shillings and sixpence for each subsequent hour. For applying the tuberculin test to not exceeding two animals £1 1s., with 5/- each for additional animal.

Mr. HILL said that he was afraid that was all the information he could give them.

The circular letter sent by Mr. Pratt to all the Inspectors in the North Riding was next referred to. From the wording of that letter it was understood that all samples of suspected milk were to be sent to Mr. Pratt for microscopical examination and on this matter

being discussed it was generally agreed that it would have been better had this matter been left in the hands of the Inspector engaged in the case, as in Durham.

Several of those present stated that they had got their microscopes put into proper order naturally thinking that they would have to make the necessary examination, and now were told that they were not allowed to do so.

Mr. AWDE thought that from his reading of the letter they would be allowed to make the necessary examination of milk and that it would have to be confirmed by Mr. Pratt.

It was agreed that the Secretary write to Mr. Pratt and inform him that "The Veterinary Inspectors present at this meeting enter their protest in not being allowed to make the microscopical examination of milk and are strongly of the opinion that each Inspector ought to be responsible for such examination.

The members subsequently had tea in the hotel.

A meeting was held in the Imperial Hotel, Darlington on Friday, June 20th. Owing to the unavoidable absence of the President the chair was occupied by one of the Vice-presidents, Mr. C. G. Hill, Darlington. There were also present Messrs. G. R. Dudgeon, Sunderland; W. H. Blackburn, South Hetton; J. M. Walker, West Hartlepool; S. E. Morton, Middlebro'; P. B. Riley, Barnard Castle; E. H. Pratt, Northallerton; G. E. Nash, Richmond; P. Snaith, Bishop Auckland; E. R. Gibson, Seaham Harbour; W. N. Dobbing, C. G. Hill, F. H. Sanderson, and J. H. Taylor, Darlington.

Visitors: Messrs. T. Wilkinson, T. T. Jack, Sunderland; G. A. Harrison, Stockton-on-Tees; and H. Hall, Northallerton.

A telegram was received from Mr. H. Peele regretting his inability to be present.

It was proposed by Mr. Gibson, seconded by Mr. Dobbing, and carried, that the minutes of the previous meeting as they appeared in *The Veterinary Record* be taken as read.

New Member.—Mr. F. H. SANDERSON, Darlington, was elected a member of the Association, on proposition of Mr. Snaith, seconded by Mr. Dobbing.

Mr. HILL, in welcoming Mr. Sanderson, said that he was very pleased he had become a member of the Association, and he hoped he would make an effort to attend the meetings, report interesting cases, and take part in the discussions.

Mr. SANDERSON thanked the members for electing him and said that he should certainly attend all the meeting he could, and help in any way he could to make the meetings a success.

Nominations.—Mr. T. T. JACK, Sunderland, proposed by Mr. Dudgeon, seconded by Mr. Gibson.

Mr. T. WILKINSON, Lancaster, proposed by Mr. Hill, seconded by Mr. Dudgeon.

Correspondence.—A letter was read from Mr. Wooldridge acknowledging the receipt of the affiliation fees from the Association to the N.V.A. and strongly urging all the members to join the N.V.A.

Letter from Mr. Noël Pillers, Hon. Sec. of the Northern Branch of the N.V.A. suggesting the words:

"A division of Northern Branch of the National Veterinary Medical Association," be placed in brackets under the title of the Association, as by so doing it would signify to anybody with whom the Society might correspond with that the Association was organised, and not an individual unit, thereby carrying more weight in any negotiations the Association might undertake.

It was proposed by Mr. Dudgeon, seconded by Mr. Snaith, and carried, that the words suggested by Mr. Noël Pillers be placed in brackets under the title of the Association on its printed matter.

Communication from Mr. W. C. Trevor, Clerk to the North Riding County Council enclosing scale of fees fixed by the Executive Committee as follows :—

At a Meeting of the Executive Committee held at the County Hall, Northallerton, on Monday, the 28th day of April, 1913. County Alderman Colonel A. F. Godman, C.B., in the Chair. It was resolved, that from the 1st May, 1913, until the further Order of this Committee, the following be the scale of remuneration of the Veterinary Inspectors employed by the North Riding :—

Five shillings for the first hour, and two shillings and sixpence for each subsequent hour in each day employed in his duty as Inspector.

For travelling, if by rail, third class fare, if by motor bicycle 3d. per mile for each mile travelled, and if by motor or by horse drawn vehicle, one shilling a mile one way from his residence.

For each microscopical examination, approved by the Chief Veterinary Inspector, 10/6.

For applying, when approved by the Chief Veterinary Inspector, the Tuberculin test to not exceeding two animals £1 ls., with 5/- for each additional animal, up to a maximum of £2 2s., with travelling allowance as above.

Actual cost of postages and telegrams to be refunded.

Letter from Mr. Pratt, Chief Veterinary Inspector to the North Riding County Council which stated that he had received the protest of the sub-committee of the South Durham and North Yorkshire Veterinary Medical Association at the Veterinary Inspectors not being allowed to make a microscopical examination of milk. He pointed out, however, that Veterinary Inspectors were not prohibited from making a microscopical examination, but that such examination must be approved by the Chief Veterinary Inspector before the fee for the examination is allowed.

Mr. MORTON thought that the North Riding Inspectors ought not to accept the scale of fees offered them, and was of the opinion that it would have been better if they had been allowed a free hand in carrying out the Tuberculosis Order, as was the case in Durham.

Mr. DUDGEON said that as there were a number of North Riding Inspectors present, now was the time to act if they had any protest to make.

The SECRETARY pointed out that according to the scale of fees, they as Inspectors were only allowed 3rd class railway fare, no fee was allowed for post-mortem examinations, no allowance was given for tuberculin or mallein, and it appeared that after six animals had been tested with tuberculin at the same time, and there were others to test, the remainder would have to be tested free of charge, as the maximum fee was £2 2s.

After a general discussion it was proposed by Mr. Dobbing, seconded by Mr. Morton and carried, "That the secretary write to the Clerk of the North Riding County Council asking him to bring the scale of fees to the notice of the Executive Committee with a request that an Inspector be allowed the same scale of fees as allowed by the Durham County Council."

CLINICAL CASES.

Mr. SANDERSON stated that one Saturday about noon he was requested to see some calves. He found one had died the previous night, one had been slaughtered just before he got to the farm, and one was very ill.

The one which was ill was chained in the byre, was breathing heavily and running forward with its head down. This one was removed at once into the fresh air and it gradually recovered. He gave a drench of sesquioxide of iron and mag. carb.

A post mortem was made of the one that had been slaughtered: on opening the rumen he was struck with the strong smell of prussic acid,

He then inquired into the age and feeding, etc., and found that the calves were four to six months old and were being fed on calf meal. The quantity used was 1½ lbs. of meal for 5 calves, and it was prepared by placing in cold water, which was boiled, and then allowed to cool. The calf that had died the previous night was the last one fed. The following morning two calves would not eat the meal, but of the two that did, one died, and the other was the one ill when he arrived.

He suggested to the owner the advisability of having the meal analysed, but as he did not appear willing he (Mr. Sanderson) had this done. He sent a sample to the Royal (Dick) Veterinary College, and Mr. Gemmell, Professor of Chemistry, reported as follows :—

"The meal contains a cyanogenetic glucoside. Prussic acid is liberated from the meal when mashed with water. The quantity of Prussic acid liberated varies according to the conditions. The following results were obtained :—

1. Mashed for one hour at 120° F. = 2.9 grains Hydrocyanic acid per lb.
2. Mashed overnight at room temperature = 2.4 grains Hydrocyanic acid per lb.
3. Mashed Saturday to Monday at room temperature = 3.8 grains Hydrocyanic acid per lb.
4. Mashed for one hour at room temperature, and two hours at 120° F. = 2.3 grains Hydrocyanic acid per lb.
5. Mashed overnight at room temperature, and 1½ hours at 120° F. = 3.6 grains Hydrocyanic acid per lb.
6. Mashed with boiling water, cooled to 120° F. and kept at 120° F. for 2 hours = less than 2 grains Hydrocyanic acid per lb.

Mr. SANDERSON further stated that in another case of what appeared to him to be prussic acid poisoning, since the above, there were three calves affected, one died, and the other two recovered when given fresh air. The blood of these animals appeared brick red and very frothy.

It had occurred to him that possibly many of the sudden deaths in young stock which one commonly heard of at farms and which were attributed to quarter-ill might be due to poisoning by prussic acid generated from linseed meal.

Mr. BLACKBURN said that he had been much interested with Mr. Sanderson's remarks, and about ten years ago he mentioned similar cases when reading a paper before the Association.

ELECTION OF OFFICERS.

President.—Mr. J. M. WALKER, F.R.C.V.S., West Hartlepool; proposed by Mr. Hill, seconded by Mr. Gibson.

Vice-Presidents.—Mr. W. AWDE, F.R.C.V.S., Stockton-on-Tees; Mr. W. N. DOBBING, M.R.C.V.S., Darlington; proposed by Mr. Snaith, seconded by Mr. Gibson.

Hon. Sec. and Treas.—Mr. J. H. TAYLOR, F.R.C.V.S., Darlington; proposed by Mr. Dudgeon, seconded by Mr. Hill.

Auditors.—Messrs. DOBBING and HILL; proposed by Mr. Snaith, seconded by Mr. Dudgeon.

Mr. DUDGEON proposed that the members and friends have an excursion again this year. He might say that he never enjoyed a day's outing more than he did theirs of last year, and suggested that Messrs. Dobbing, Hill, and Taylor be the committee and make all arrangements. This was seconded by Mr. Blackburn, and carried unanimously.

The SECRETARY stated that he had already been making a few inquiries and thought Wensleydale would be a nice place to visit this year.

PRACTICAL DEMONSTRATION OF THE MICROSCOPICAL EXAMINATION OF MILK.—By H. P. LEWIS, M.R.C.V.S. Assistant Veterinary Inspector for Sheffield.

Mr. LEWIS introduced his subject by remarking that in conducting such examinations, absolute cleanliness must be observed. All slides, coverglasses, pipettes, bottles, etc., ought to be sterilised, and he advocated indiarubber corks for the bottles containing the milk.

In drawing milk from the quarter of an indurated udder, his experience was that it did not very much matter which milk was used, whether the first or last withdrawn, as in such cases the bacilli would be found in any of the milk. The milk from an indurated udder was usually thinner than normal, and had a brownish tinge. He kept all slides and coverglasses in absolute alcohol.

Mr. LEWIS having brought a quantity of suspected milk with him allowed the same to stand, and from the sediment at the bottom of the bottle withdrew with a pipette a sufficient quantity which was centrifuged, after which the deposit in one of the tubes was smeared on a slide stained with carbol fuchsin and counter-stained with methylene blue in the usual way.

Every process during staining was carefully carried out and thoroughly explained, and on examination of the prepared slide the presence of the bacillus of tuberculosis was well demonstrated. Mr. LEWIS answered several questions which were put to him.

Mr. HILL proposed a very hearty vote of thanks to Mr. LEWIS for his kindness in coming such a long journey and giving them such a practical demonstration.

Mr. DUDGEON seconded the vote of thanks which was carried with acclamation.

Mr. LEWIS replied, saying that it had been a great pleasure for him to come, and if at any time he could be of any service to the members he would only be too pleased to help them in any way he could.

The members afterwards had tea together in the hotel.

JAMES H. TAYLOR, Hon. Sec.

Pituitrin in Obstetric Medicine.

Udacta (*Revista de Medicina y Cirugia Practicas*, October 14th and 28th, 1912) reported to the Spanish Gynaecological Society two cases of uterine hæmorrhage treated with pituitrin. The first was a woman two months pregnant, who had been passing coagula and large pieces of "flesh" which macroscopically appeared to be placenta. Three days after being first seen she had a slight hæmorrhage, and about six minutes after its appearance she was given a hypodermic injection of pituitrin. Fifteen minutes later she felt pain, and expelled from the uterus a quantity of blood. Forty two minutes later there came away a coagulum and a mass of placental tissue. That was the last of her symptoms, and she has remained well since. In the second case the patient's uterus expelled the placenta after the first injection of pituitrin. In the discussion, Botin said that he had experience of the action of pituitrin in 4 cases. In 3 of them the result was excellent; in the fourth case there was no result. He referred to the great difficulty in the experimental study of the action of the extract of the pituitary gland in the living animal. The operation for its removal was so severe that it was difficult to distinguish the effects of its removal from the effects due to the severe traumatism necessary in removing it. The recent introduction by Parache of the orbital method of reaching the gland involved much less injury to neighbouring parts, and may have better results. The injection of pituitrin causes first of all a tetanic contraction of the uterine muscle, which after a short time

ceases, and is succeeded by other contractions altogether resembling those of normal labour. Attempts to avoid the initial tetanic uterine contraction by giving smaller doses have not been successful. So far, pituitrin appears to be quite harmless to both mother and fetus. One peculiarity of its action is that tolerance seems to be very quickly established, so that even the second injection acts less energetically than the first, and the third than the second. For this reason, the drug should not be used in the first complication which occurs (unless this is really serious), as otherwise a later moment of greater danger will find us deprived of its full power of assistance. It results from its power of increasing the normal intermittent contractions of the uterus that it can often be used in uterine inertia before the child's birth, and in this way replace the use of the forceps. Manueco remarked that our knowledge of the drug was still much too incomplete to justify any enthusiasm about it. This might lead to its falling unduly into discredit. He believed that in the reactionary relaxation of the muscular fibres of the uterus following its use, hæmorrhage was to be feared. For this reason he always repeated the injection if the pains faltered towards the end of the labour. In every case an exact diagnosis of the cause of the delay in the course of parturition was essential. To use pituitrin, for example, in a case of pelvic contraction could only lead to a calamity. More study of the effect of the drug on the contractions of the uterus, by means of the locomotometer, was required.—B. M. J.

PARLIAMENTARY.

SHORTAGE OF CATTLE WAGONS.

In the House of Commons on Wednesday, June 18:

Mr. REDDY asked the Vice-President of the Department of Agriculture (Ireland) whether representations would be made to the Great Northern Railway (Ireland) Co. with regard to the shortage of wagons for conveyance of cattle from Banbridge, Co. Down, on days of fairs.

Mr. T. W. RUSSELL: The Department are unaware of any general shortage of wagons at Banbridge fairs. In connection with the fair on 27th ult., there appears to have been an excess demand as compared with the corresponding fair last year. The supply sent fell short in consequence by six wagons, but the requirements were met by unloading other wagons standing at the station containing goods. By these means traffic was got off in usual time. Representations to the Company appear scarcely to be called for in the circumstances.

Tuesday, June 24

DUTIES OF VETERINARY INSPECTOR.

Mr. Charles Bathurst asked the Secretary for Scotland if he would state what were the duties of the veterinary inspector to the Local Government Board for Scotland, and what were the veterinary qualifications required or the occupant of this post.

The Secretary for Scotland (Mr. M'Kinnon Wood): The duties of the veterinary inspector to the Local Government Board for Scotland are to supervise throughout Scotland the inspection of meat and also the inspection of cattle and dairies in relation to milk supply. The veterinary qualifications required have reference particularly to these duties.

Mr. Bathurst asked what diplomas or other educational distinction in comparative pathology or veterinary science and therapeutics Professor Leighton possessed, and what had been the nature and extent of his practice as a veterinary surgeon.

The Secretary for Scotland: Professor G. R. Leighton has been appointed veterinary inspector. He holds the following degrees and distinctions:—M.D., C.M., L.R.C.P. and S.E., L.F.P.S.G., and F.R.S.E. (Laughter) He has been connected with the Royal Dick Veterinary College since 1902, first as lecturer on comparative pathology and bacteriology, and latterly as Professor of pathology, bacteriology, and meat inspection. In that capacity, he has given lectures on diseases of animals, bacteriology of animal diseases, practical pathology, practical bacteriology, and meat inspection, and also demonstrations on healthy and diseased carcasses, the lectures on meat inspection and the demonstrations being conducted at the Edinburgh Corporation slaughterhouses. Professor Leighton has also a knowledge of Continental abattoirs, meat inspection, and methods of dealing with milk supply.

Mr. Bathurst asked whether any of the degrees which the veterinary inspector possessed was a veterinary degree, and though his duties were to be veterinary duties had he any veterinary education whatever.

The Secretary for Scotland said that he could not agree that Professor Leighton had not had a great deal of veterinary experience.

DOGS BILL.

The adjourned meeting of the Standing Committee A on the Dogs Bill was held on Wednesday, June 25th. Considerable debate arose, in which Sir Philip Magnus, Dr. Chapple, Sir Henry Craik, and others took part in opposing the Bill. The meeting of the Committee was adjourned until Wednesday, July 2nd.

DOCKING OF HORSES.

In reply to Mr. George Greenwood, Col. Seely said that representations had recently been made to the horse trade on this subject, and an order was now being issued to all concerned that after three years from this date no docked horse would be purchased for the Army.

FOOT-AND-MOUTH DISEASE (INDIA).

In response to Sir John Spear, Mr. Runciman said that the report of the Committee sent out to India by the Board of Agriculture to investigate the cause and treatment of foot-and-mouth disease in cattle had been completed, but the drafting of a detailed report had been postponed owing to the illness of Sir Stewart Stockman, who was not yet able to attend to business.

Tuesday, July 1st.

VIVISECTION EXPERIMENTS.

Mr. LYNCH (Clare, W. Nat.) asked the Secretary of State for the Home Department whether he could state the number of establishments in this country licensed for vivisection purposes or for research work involving experiments on living animals; how many persons were now in possession of licences and certificates authorising them to perform such experiments; how many dogs were employed for this purpose during 1912; what proportion that bore to the total number of animals so employed; and when the annual return of vivisection experiments would be published.

Mr. McKenna (Monmouth, N.)—The number of registered places in Great Britain is 109. The number of persons holding licences is 568. Most of the holders of licences also hold one or more certificates. The total number of experiments performed during 1912 was 83,599. I cannot give the exact number of experiments on dogs—888 experiments were performed under the certificates which allow experiments on dogs or cats, but the returns do not show how many were on either kind of animal. In addition to these, some of the 2,584 experiments performed under licence only, without certificate, may have been experiments on dogs. The annual return is almost ready for publication, and will, I hope, be issued shortly.

The Incidence of Tuberculosis in Cattle.

At the meeting of the Scottish Sanitary Inspectors' Association in Greenock, on Friday, 27th ult.:—

Mr. Peter McIntyre, M.R.C.V.S., Greenock, dealing with the "Veterinary Aspect of Milk Supply," said that the disease by far most prevalent amongst dairy cows was tuberculosis. With regard to the frequency of the disease in the different species of animals, a striking difference prevailed. During 1912, in the Greenock Public slaughterhouse, where a careful record was kept of every carcass found affected, no matter how slightly, the following were the percentages:—Bullocks, 11.5; bulls, 30; cows, 64.7; heifers, 13.4; calves, 16; swine, 11.5; sheep, .0008. It could be taken that the percentage of animals found affected with tuberculosis in any abattoir represented the actual percentage of animals affected in the country. The age and breed of the animal, and the conditions under which they were kept influenced greatly the percentage affected. Very great differences exist with regard to age; with each additional year of life the disease increased, so that out of the old milk cows which reach the abattoir an alarming number were found diseased. The percentage of Irish and Highland cows affected with tuberculosis was much less than the percentage found in heavy milking Ayrshires.

A striking example of the influence of environment on disease was demonstrated to him in the slaughterhouse. Authorities on pathology state that goats are practically immune to tuberculosis. Goats, being hardy animals, were seldom housed, and frequently were running wild on hill land. Such goats were usually free from tuberculosis, but of four goats brought for slaughter from steadings within the burgh, three were found to be extensively affected. These goats were living under practically the same conditions as, and along with cows. When one considered that the bovine tubercle bacilli had been shown to be more virulent for all animals than the tubercle bacilli of man, it must be accepted that milk, which was an important food, especially of children, if containing tubercle bacilli, must be dangerous to health.

The Tuberculosis Order, 1913, was the first legislative endeavour which would reduce appreciably the number of tuberculous cattle. An order somewhat similar was issued in 1909, under which local authorities had to pay the whole of the compensation due; it was strenuously opposed by them, and was withdrawn. In the new order, the Government contributed for the first five years one-half. This order was not a Public Health Act; it was administered, and the expenses paid by, the Executive Committees under the Diseases of Animals Act. In framing the order, however, the Board of Agriculture had been considering more the benefit to the public health than the welfare of the animals on whose behalf the Board of Agriculture was formed. No mention was made in the order of cows suffering from open tuberculosis of the lungs, a condition known to freely disseminate the germs, and to be a source of infection to animals in contact, and even to contaminate the milk indirectly. The order aimed at securing the destruction of every cow found to be suffering from tuberculous milk, as well as of all bovine animals which were suffering from tuberculosis with emaciation. (Applause).—*The Greenock Telegraph*.

GOVERNMENT PUBLICATIONS.—Messrs. Wyman and Sons (Limited), official sale agents in England and Wales for Parliamentary papers and Stationary Office publications, have published the following:—Protection of Animals: Overloading of Horses Bill, 1d.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders † (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks	Slaughtered.*
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
GT. BRITAIN.													
Week ended June 28	2		2				4	4	37	68		56	432
Corresponding week in	1912	13		15	4	38	7	21	39	57		63	526
	1911	17		22			1	2			1	52	927
	1910		29	40			4	22			1	43	252
Total for 26 weeks, 1913	317		242				86	244	1664	3379	121	1230	17037
Corresponding period in	1912	497		557	4	38	87	185	2100	4657	162	1797	22841
	1911	476		594	1	18	104	273			303	1332	14977
	1910		810	981			178	501			315	731	6508

† Counties affected, animals attacked: London 1, Middlesex 1, Warwick 1, City of Edinburgh 1.

Board of Agriculture and Fisheries, July 1, 1913

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Horse Shoe Competition.

The Roads Improvement Association has issued the details concerning its Horse Shoe Competition in which £100 is offered for a new or improved type of horse shoe that will provide horses with a satisfactory foothold upon the modern smooth waterproof road surfaces, and minimise the damage now caused to such surfaces by certain types of shoes now in use.

The Judges Committee comprises Mr. Robert Todd (Chairman of the R.I.A.) who is acting as Chairman; Mr. H. Percy Boulnois and Col. R. E. Crompton, C.B., representative road engineers; Mr. G. E. Fairholme who has been appointed to represent the Royal Society for the Prevention of Cruelty to Animals, of which body he is Chief Secretary; Messrs. W. Hunting, F. W. Stanley, and Thomas Wolsey are the veterinary surgeons on the Committee; Messrs. Henry J. Selby and Richard S. Tilling are watching over the horse-owner interests. The War Office have nominated Col. C. E. Nuthall as their representative. Messrs. J. H. Horton and Alan Lupton, well known in coaching circles, are also included in the Judges Committee.

Mr. Wallace E. Riche (General Secretary to the Roads Improvement Association) is acting as Secretary, and will be glad to supply copies of the rules upon request. Communications should be addressed to him at 15 Dartmouth Street, Westminster, London, S.W., and as no entrance fee is being charged all applications should be accompanied by 1d. stamp to cover postage.

RULES.

The merits of the competing devices will be judged mainly on the following considerations:—

(1) The provision of a satisfactory and non-slipping foothold for horses upon waterproof road surfaces now adopted upon main roads and the chief streets in our large cities and towns.

(2) The reduction in the amount of damage caused to road surfaces.

(3) General practicability, such as; capability of general manufacture, reasonable life, moderate cost and similar considerations.

Prizes.—It is proposed to award a prize of One Hundred Pounds for the device the Judges' Committee consider most satisfactory; but the Judges' Committee reserve the power to withhold the award if they consider that no shoe entered is deserving of a prize. Further, the Judges' Committee also reserve the power

to divide, or add to, the prize, if a number of horse shoes entered be equal in merits.

Entries.—Every entry must be made on an official form to be obtained from the Secretary to the Roads Improvement Association (Incorporated), 15, Dartmouth Street, Westminster, London, S.W. A separate entry form must be filled in for each shoe submitted.

Details.—The entry must be accompanied by a specimen shoe, or shoes, and a concise memorandum giving general features of the device and its claims. The memorandum and sample shoe, or shoes, submitted will be treated as confidential, and for the Judges' information only.

The Memorandum should give information under the following headings:—

(1) Full name and address of entrant.

(2) Cost of production of the shoe, or shoes submitted, and also estimated price at which reasonable quantities could be supplied.

(3) General statement of the claims for the shoe submitted.

(4) Whether the type of shoe entered has been used for any period and, if so, details.

(5) Whether shoe submitted is now on the market, if so, how long it has been available, names of representative users, and extent of sales.

Date of Entering.—The latest date for receiving entries is December 31st, 1913. No formal entries with the accompanying shoes and memoranda should be sent before December 1st, 1913.

Man Injured by Humane Killer.

A shooting accident took place on 17th inst. in the horse fair attached to St. James's Market, Bradford.

P.C. Carr was called, and found William Batty, of 107, Binbrook Street, bleeding profusely from a wound in the right thigh. A horse had been ordered by the R.S.P.C.A. Inspector to be destroyed, and Messrs. Bryant, horse slaughterers, of Thornton, came to destroy the animal by means of the humane killer. The instrument had been fixed to the horse's head and was discharged, and the bullet came out of the horse's neck and penetrated Batty's thigh. P.C. Carr rendered first aid, believing an artery to be severed, and the man was removed to the Royal Infirmary, when it was decided to perform an operation for the removal of the bullet.—*Bradford Daily Telegraph*.

Roads and Horses.

The International Road Congress, at present on a visit to Scotland, were entertained to dinner in the City Chambers by the Corporation of Glasgow on Monday.

Lord Provost D. M. Stevenson, in proposing the health of "Our Guests," said it was no use simply making roads for to-day or for the next two or three years; they must be made with an eye to the requirements of the future. Traffic should not be made to suit the road; the roads should be made to suit the traffic.

The Right Hon. Sir John H. A. MacDonald, President of the Scottish Automobile Club, submitted the "Lord Provost and Corporation of Glasgow." In doing so he declared that nothing would conduce more to the health of the community than the making of good roads and streets; and, let it be said with bated breath, the removal as much as possible of the poor old horse from the streets. Let them consider the question of the improvement of the road not merely from the point of view of easy, convenient, and economical transit, but of the health of the population, because every horse that went about the city was a promoter of disease. The most economical, the most practical, and the most sanitary mode of conducting transit through the streets was by mechanical means.

Lord Provost Stevenson, in replying, referred to Sir John's remarks, and said the transformation was going on very rapidly, and the time seemed not very far distant when the horse would appear in the street in a very ornamental position, say as the outrider of a circus procession. (Laughter).—*Daily Record and Mail*.

The Case for Vivisection.

The members of the Research Defence Society held their annual meeting at the Royal College of Physicians. Sir David Gill presided. There were also present Sir Thomas Barlow, Sir William Osler, Bishop Frodsham, Mr. Astor, M.P., and Mr. Stephen Page, hon. sec.

The Committee, in their report, appealed for a special fund of at least £600 for securing a ground-floor room, fronting on a good thoroughfare in London, where the facts of the case for vivisection might be put before the public. Towards this sum £240 had been received.

Lord Cromer referred to a paragraph in the report which stated that at the annual meeting of the Royal Society for the Prevention of Cruelty to Animals the re-election of Lord Cheylesmore to the council of that society was defeated on the ground that he was one of the vice-presidents of the Research Defence Society. He himself, and a good many others who were members of both Associations, instantly instituted a protest. He believed it was a snap vote, but if it should prove to be the matured opinion of the members, he would think it his duty to withdraw from the Royal Society for the Prevention of Cruelty to Animals.

Sir Hugh Bell said that in the same event he should take the same course as Lord Cromer.—*The Times*.

Anti-vivisectionist and Press-cuttings.

At the Annual meeting of the Research Defence Society the President, Sir David Gill, K.C.B., F.R.S., in the course of his address, said:—

"When press-cutting is employed to prove some narrow point, and is applied to the purposes of special pleading, it is capable of the gravest misuse. By the aid of press-cutting agencies the employees of the anti-vivisection societies are enabled to ransack the whole of literature—books and periodicals, medical and lay, old and new, for cuttings consisting of illustrations, paragraphs, sentences, or in some cases single words, which, isolated from the context that is needed to show their real meaning, can be used to support one or both of

these two ideas—namely, that experiments are useless, and that they involve cruelty. And the people who are engaged in the production of this concentrated extract of scissors and paste are the very last who are likely ever to realise how very misleading a product it is, both to producer and consumer.

Does not the habit of scandalmongering grow fast enough upon men and women who indulge in it, without it being made a means of livelihood.

REVIEW.

A MONOGRAPH ON JOHNE'S DISEASE (ENTERITIS CHRONICA PSEUDO-TUBERCULOSIS BOVIS). By F. W. TWORT, M.R.C.S.Eng., L.R.C.P.Lond., and G. L. Y. INGRAM, M.R.C.V.S. Illustrated with nine plates. Demy 8vo. Pp. vj. + 178. Price 6/- net. (Baillière, Tindall, and Cox, 8, Henrietta Street, Covent Garden, London).

Monographs upon single diseases are not abundant in the veterinary literature of this country. The subject of this one, with the names of its authors, will ensure it a wide reading, which it may be said at once that it fully deserves.

The work is designed "to summarise existing knowledge" of Johne's disease, and does so admirably. It includes an account of Continental investigations by different workers (particularly Bang and Miessner), the experimental work done in this country by the authors themselves and others, and the clinical observations of various practitioners. Clinical and pathological results are thus brought together into one small volume, which neither practitioner nor pathologist who is interested in the disease should neglect to read.

Practitioners will be most interested in the first five chapters, which deal with the history and distribution of the disease, its economic importance and etiology, symptomatology, differential diagnosis, prognosis, treatment, prophylaxis, and pathological anatomy and histology. The later chapters are concerned with the bacillus, its cultivation and special and general pathogenicity, diagnostic vaccines, and the agglutination and complement fixation tests. This latter portion is extremely interesting, though some of it is not of a nature to be of much practical utility to anyone outside a laboratory. It will thus be seen that the book treats of the disease from every standpoint, and all we need say of it is that the whole is well done. It will almost inevitably soon be out of date in some particulars, and probably the authors themselves will help to make it so. In the meantime, they have done the profession good service by its publication.

W. R. C.

Personal.

Mr. WILLIAM KEARNEY, M.R.C.V.S., a graduate of the Royal (Dick) Veterinary College, Edinburgh, has been appointed assistant veterinary pathologist to the East Africa Protectorate.

CHAPMAN—AUBREY.—On the 26th ult., at St. Mary's Church, Tyndall's Park, Clifton, by the Rev. F. Norton, Harold Chapman, of 15 Upper Wimpole Street, W., to Maud Evelyn, eldest daughter of Mr. and Mrs. Thos. Aubrey, of Clifton, Bristol.

ABBOTT—KITCHIN.—On Saturday, June 21st, at Woodford Green Congregational Church, by the Rev. Eynon Davis, Cecil Alfred, son of Mr. and Mrs. J. B. Abbott, of Montclair, Woodford Green, Essex, to Kathleen, second daughter of Mr. J. E. Kitchin, M.R.C.V.S., and Mrs. J. E. Kitchin, of Overdale, Woodford Green, Essex, and Shipborne, Cromer.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, July 1.

REGULAR FORCES. ARMY VETERINARY CORPS.

Capt. A. C. Anderson is seconded for service with the Egyptian Army. Dated May 2.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Maj. A. E. Clarke, retired pay (late Army Veterinary Corps) is appointed Assistant Director of Veterinary Services of a Territorial Division, and is granted the temporary rank of Lieut.-Col. in the T.F. whilst holding the appointment. Dated June 25.

OBITUARY.

J. B. THOM, M.R.C.V.S.

Graduated, Glas.: May, 1904

News has just reached Liverpool that Mr. J. B. Thom, M.R.C.V.S., late Assistant Veterinary Superintendent to the Liverpool Corporation died in South Africa on 2nd April. The deceased gentleman was about 35 years of age, was a native of Glasgow and held his Liverpool appointment for several years.—(*Local Government Chronicle*, June 14).

HENRY THEAKSTON, M.R.C.V.S., Pocklington, Yorks.

Lond.: April, 1879.

Mr. Theakston died on June 18th from chronic nephritis. Aged 56 years.

FRANCIS TOMPKINS POWELL, V.S. (retired), Gamlingay, Caxton, Cambs., died on June 23rd from bronchitis. Aged 84 years.

SUSPENSION OF THE UDDER IN MAMMITIS.

Sir,

I have read Mr. Lockwood's paper on mammitis and the report of the discussion thereon with much benefit. I do not find any allusion to the practice of giving support to the painful and inflamed udder by means of a suspensory cloth. I believed that such a measure was extremely beneficial, and in consequence I always have the udder supported in this way.

As no reference was made to the procedure, am I to assume that my belief in the consequent improvement in these cases is but one of the many fatuous illusions so common and peculiar to recently qualified men?—Yours faithfully,

W. F. POULTON.

INSPECTORS' FEES.

Sir,

I consider Mr. James Yule Bogue deserved the admiration if not the thanks of the profession for having the backbone to claim fees commensurate with his position as a learned professional man in a responsible undertaking. I for one congratulate him in getting what he rightly believed to be the value of his services to the community. Every reasonable man will, no doubt, allow that it is only fair when one undertakes great responsibilities, one should be compensated accordingly.

On the contrary, I am very sorry to see that some of our number estimate their time and skill at 3/6 per hour and consider that sum is sufficient for any man, who undertakes responsibilities as they are disposed to undertake. To my mind the acceptance of such a sum seems to indicate that in some country districts the practitioner values his time and skill very cheaply or perhaps he has very little to do to occupy his time elsewhere.

Apparently it is useless for the National Association to be working its hardest to obtain a suitable remuneration for those veterinary surgeons working in the public service when there is another section of the profession working against the principles of that Association.

Every right-minded member of the profession must feel sorry at the action of Town Council in dismissing Mr.

Bogue from further attendance on the Council's horses because he asked for what he considered was reasonable, especially under the circumstances.

If veterinary surgeons are so narrow-minded as to work against those of their brethren who adopt a higher level than the majority seem to place themselves, then the majority must sink to a very low level, lower in the future than in former times. (Messrs. Crowhurst and Toope should make an incursion westward).

I agree with Mr. James Blakeway when he says the preachings of professional ethics at veterinary societies don't agree with the performances in practice. Probably some of the praters infer: "Don't do as I do, do as I say." There is too much cant, too great a number of petty selfishnesses to satisfy, too many little minds to reform, and too much sham mutual admiration in our profession. We should submit ourselves to introspection before we rave in veterinary societies about our own importance and competence and the greediness of the medical profession and other bodies. Are we sound internally? Personally, I think the public give us our worth. Seemingly many of us do not understand logic. Perhaps too many of us have never heard of *Vis unita fortior*. If all of us have, then where does our wisdom come in? Don't blame the public!—Yours, etc.

HENRY GRAY.

Sir,

It is a pity that the brief for the defence of the Council was not placed in the hands of an individual who had at least the ability to write in terms of ordinary politeness. "Diogenes the First" describes my letter as "asinine." Well, I hope that I am not exceeding the bounds of propriety if I describe his production as "porcine." He is distinctly greedy. His equanimity is seriously disturbed because I have written under the *nom de plume* of "Diogenes." He says that he used this title "years ago." I may inform him that I have also used it on several occasions and I dispute his exclusive right to the title.

But *ma foi*, if his former letters were couched in the style of his present one, I should certainly have adopted another title, as it would be very distressing to be mistaken for such an egotistical and greedy individual.

His letters (so he says) "were of some little good to the profession." "The Lord gie us a good opinion of ourselves."

Now Mr. "Diogenes the First," you assume far too much. You may be as "much incensed" as you please, but everyone is entitled to his own opinions and it is a free country. If you were the "Shah of all the Persians," you might get "letters patent" or "vested rights" in a *nom de plume*, and might try to demolish all those who differ in opinion with you. You *should* be a member of Council, that job would suit you. But as you are only an ordinary individual (at least we hope so), don't be too "cock sure" that "all serious disputes about that Bill inside the profession is dead." Better "wait and see."

With reference to the 19 members of Council you mention, I beg to point out to you that the majority of them are well-off city practitioners, who know nothing about the requirements of veterinary surgeons in the country. If you hold they do, then we shall "agree to differ." I suppose you will not deny that the scarcity of country practitioners on the Council is a matter that is often the subject of comment. Your second list does not contain the names of any men who can be regarded as conversant with the calving of cows, the foaling of mares, or the castration of colts. As for the third list, I hardly think that anyone can seriously suggest that the members mentioned are representative of the rank and file of the profession.

I again assert that the teachers "rule the roost," not by numbers certainly, but by influence. If "Diogenes the First," thinks otherwise, he is welcome to his opinion, it will not alter mine, although he may describe the view as "dangerous," a "pernicious superstition" and "rubbish." What convincing terms there are in a discussion, even when adopted by "a veterinary correspondent"!—Yours, etc.,

"DIOGENES" (THE ORIGINAL).

THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1305.

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THE COUNCIL MEETING.

Last week's Council meeting, though the report of its proceedings is somewhat voluminous was not in reality a very long one. It commenced with a change of Presidency; and Prof. Mettam, after serving two years as President with much more than ordinary distinction, transferred his chain of office to Mr. Carter. The new President has earned his position by many years of good if quiet work upon the Council; and his election will be popular amongst practitioners.

After the election the Council passed to a variety of business, some of it very important. The most import of all is finance; and here we can only echo the words of the Treasurer "on the old lines." We have less than £60 in hand; shall require about £150 during the next three months, and only one resource is open to us. Though it is little more than a year since we sold £1000 worth of Consols, yet before the end of the present year we shall be forced to sell more. That is the situation; and it requires no comment.

Meanwhile the meeting yields ample evidence that, as our exchequer is dwindling, our financial needs are expanding. The Parliamentary Committee had even more work than usual upon Parliamentary Bills to report; and their labours have included the sending of a special deputation to Edinburgh. Happily all their work this quarter seems to have progressed satisfactorily; but its cost must be increasing.

The Library Committee, too, illustrated the poverty of the R.C.V.S. Proposals were made to increase its supply of periodicals, but these were negatived on the grounds of expense. On the same ground, the Council refused to sanction any circularisation of the books. We agree that both decisions were unavoidable—and so the books must remain inaccessible to nearly all members, and the Library must continue to be all but destitute of periodicals.

The Registration Committee had to deal with the recent appointment of a medical man to a veterinary inspectorship in Scotland, and the matter is being taken up vigorously. The Council

intend to "strongly protest" to the Local Government Board for Scotland, and, as a small but strong special sub-committee has been appointed to draw up the protest, it seems that some especial case is to be given to it. We shall all await the result with interest.

Finally, a great deal of attention was given to educational matters, and these we reserve for future notice in detail. Some of them are very important indeed, for readers will see that, in more directions than one, radical alterations are proposed. We advise all members, therefore, to study these new proposals carefully.

THE SANITARY INSTITUTE CONFERENCE.

The Veterinary Inspectors' Conference opened at 10 a.m. on Wednesday, in the University College, Exeter. There was a good attendance—the lecture theatre was filled; there were many veterinary inspectors, with several M.O.H. and sanitary inspectors. Prof. Penberthy filled the duties of chairman admirably, and gave a clear and reasoned introductory address. Naturally tuberculosis and milk were the predominating feature. The paper by Mr. W. Ascott on "Milk and Dairies" was to the point, well set out, and not too long. Mr. G. P. Male and Mr. J. A. Dixon spoke, in the main supporting Mr. Ascott. Dr. Freemantle, M.O.H., in a temperate contribution to the discussion, acknowledged the propriety and the value of veterinary co-operation in the work, and with Dr. Garnett, M.O.H., expressed the view that veterinary surgeons would be met and welcomed by the medical officers. Mr. Stableforth's paper, "Bovine Tuberculosis, its Diagnosis," was not efficiently discussed—it was talked round—in spite of the efforts of the Chairman. The discussion on Mr. Archer's paper, "Transmission of diseases by animals to man," was also discussed, and brought to light once more the old story of the infection of scarlet fever from cows. The final paper on abattoirs and freibanks, though less directly veterinary in character, was freely discussed; and the Conference closed at 2:30. We hope to publish details later.

THE TREATMENT OF PLEURITIC EFFUSIONS.

With reference to Major Martin's article in your issue of January 25th, I beg to give particulars of an interesting case, which was recently treated in the Station Veterinary Hospital, Bulford, on the lines indicated.

Subject. Well-bred pony mare, 5 years, about 14 hands.

June 5. First called in. Patient dull and off feed. Has fever, and coughs a little. Had been kept in hot stuffy stable.

June 6. Still dull and not feeding, but grazes fairly well when turned out in paddock.

June 7. No change. Patient still dull, and won't touch corn, mashes, or hay.

June 8. Brought to Hospital, will eat nothing. Very dull. In evening, respiration slightly accelerated. Pulse hard, wiry and frequent.

June 9. Blowing hard. Completely off feed. Looks distressed. Pulse much accelerated. In morning removed half a bucketful straw-coloured exudate from chest, off side.

June 10. Blowing less. Picks a bit of green stuff. Membranes injected. Pulse better but weak. In morning tapped chest again on off side, and removed similar quantity of fluid with same characters. Tried again in evening, off side, but trochar entered too low and only a little blood flowed.

June 11. Much improved. Takes mashes and corn. Respiration almost normal. Pulse strong and steady. Removed three-quarter bucket effusion in morning and one and a quarter buckets in evening. Near side each time. Colour light port wine.

June 12. Normal pulse and respiration. Patient much pulled down and weak on her legs, but looks bright and feeds well. Inserted trochar and canula twice in morning on near side. First time no result as direction was wrong, the instrument being inclined too far back. At next attempt half a bucketful was removed, the same colour as yesterday. It was still running hard when canula was withdrawn. In evening, operation was repeated on off side. One bucketful obtained. Same appearance.

June 13. Continues to improve rapidly. Moves about easily in box, and is getting greedy. Performed paracentesis again in morning, off side, getting a bucketful of fluid, which was coming freely at finish.

June 14. Out of immediate danger. Lies down a good deal during daytime. Coughs occasionally. Tapped chest for last time in evening, near side, and obtained nearly half a bucketful, colour being now lighter.

June 15. Improvement maintained in every respect.

June 16. Doing well. Led out to graze and exercise.

June 17. Turned out to graze in paddock and commenced to gallop about.

It will be seen that this animal's chest was tapped ten times in six days, the total quantity of

fluid removed being seventeen gallons, two pints. She was in no way upset by the operation.

Improvement was noticeable after the first puncture, and was maintained proportionately to the amount of fluid removed. Tapping was discontinued as pulse and respiration had been normal for some days, and there did not appear to be any further need for it. Probably a considerable quantity of effusion remained in the Pleural cavities, to be reabsorbed in the course of time. Up to the present date (July 4th) there has been no synovitis of the Flexor tendon sheaths, nor lameness, as was observed in certain of Major Martin's cases, but it would be premature to say that such may not take place.

P. V. BEATTY, Capt. A.V.C.

Bulford, July 4th.

ABSTRACTS FROM FOREIGN JOURNALS.

SUBCUTANEOUS EMPHYSEMA IN A COW.

Humann, of Ebern, reports the following extraordinary case. In the first place, while on a journey, he was suddenly called upon to treat a case of milk fever; and, not having an air infusion apparatus with him, he improvised one by fitting a teat-canula on to the tube of a bicycle pump. This was completely successful so far as the milk fever was concerned, as the cow was up again and feeding after two hours. It was, however, followed two days later by a rather severe and protracted mastitis, attributable to infection by unpurified air. The treatment by means of the bicycle pump was witnessed by five or six men, who were much impressed by the simplicity of the method and the rapidity of its results.

About three months later, Humann was called to another cow in the same neighbourhood. The account given was that the cow had calved four days before, and now refused food; was distended over the whole body, which emitted loud rustling sounds when the hand was lightly passed over it. From this, Humann expected to find injury to the genital passages during parturition, and sepsis with malignant oedema. On arriving at the place, he found this opinion wrong; for the cow showed no fever, and the genital organs were completely normal. On the other hand the animal's whole body, from the neck to the tail and from the back to the udder, appeared inflated. Palpation of the body yielded loud rustling and crackling sounds, without the cow showing the least pain when the skin was strongly pressed upon or pinched together. No questioning could elicit any possible explanation of the condition, the only account that Humann was able to obtain that day being that the symptoms had arisen suddenly and quite spontaneously, and that no one could suggest any cause.

Humann treated the case symptomatically. First he made numerous punctures of the skin along the back, which allowed the air to stream out with a hissing sound. He then ordered frequent rubbing and massage of the whole body, and

further directed warm bran drinks to be given. The cow was apparently feeling quite healthy.

The next day the animal's condition, although not normal, showed a marked improvement. Further questioning now brought out the true history of the case, which was as follows. After calving, the cow had not risen, and all efforts to get her up had proved unavailing. Neighbours had then advised the owner to treat the case as Humann had been seen to treat the one of milk fever in the same neighbourhood three months before, and pump air into the udder. A bicycle pump was therefore again used, and the quill of a goose-feather was arranged as a canula. This apparatus had been employed upon the udder, the cow had forthwith risen, and immediately afterwards the distended condition had been noticeable, and the cow had become ill. Humann infers that in some manner, while the air was being pumped into the udder, a great quantity of it had found its way into the subcutis. The sequel of the case was that the cow recovered completely.—(*Münchener Tier. Woch.*)

CASES SIMULATING MILK FEVER.

Dun, of Hösbach, records the two following cases. The first was a cow at her fifth parturition, which showed a torsion of the uterus to the right, of 45°. She was raised behind with pulleys and well supported with straw, and it was then easy to reduce the torsion by turning of the calf, and effect delivery. The cow was let down, but a short time afterwards, before Dun had left the farm, he was again summoned to her. He found her lying upon the right side, with the head resting against the left ribs. The surfaces of the body were peculiarly cool, and showed no reaction to stimuli and pin-pricks. The eyes were closed, and the pulse was "galloping" and scarcely perceptible.

Dun gave her two hypodermic injections of caffeine within 15 minutes, and infiltrated the udder with air in the interval between the injections. This caused a sensible improvement in the comatose condition; the cow was soon able to raise her head, and also made attempts to rise. After the lapse of an hour, however, the threatening heart weakness again became evident, and it was then decided to slaughter her.

Post-mortem, a quantity of blood was found in the peritoneal cavity. This had proceeded from a small abrasion of the uterus, which had caused opening of the uterine artery. Dun concludes that during the intra-uterine turning of the calf the uterus had undergone a brushing and abrasion against the sacrum, which had led to fatal internal bleeding.

The second case was a well-nourished cow at her second calving. The history was that the day before, with the aid of several men, she had been delivered of a robust bull-calf. The cow was very heavy, and lay persistently before parturition, which finally took place while she was lying in a sloping position, with the fore part of the body higher than the hind.

The day after calving the cow had not yet risen,

but was feeding and ruminating, so that the owner did not seek advice until symptoms similar to those of milk fever had appeared. Dun found the cow lying athwart the stall in an apathetic condition. The head was laid sideways, the skin was icy cold, and the corneal reflex was absent. Dun immediately injected caffeine, and then proceeded to a liberal air infiltration of the udder. While the udder was being massaged the cow rose and took some brand drink. In the course of the night, however, threatening symptoms again appeared, and the owner slaughtered her.

Post-mortem, about four feet of the jejunum was found coloured blue-black, pressed together, and showing slight lacerations of its serous covering. Dun infers that in consequence of the position of the cow during parturition this portion of the intestine had been crushed in the pelvis. It is noteworthy that the severe injury to the intestine had not suspended peristalsis, for after the cow had risen, very copious defecation took place. The injury had, however, been followed by great depression, the symptoms of which resembled milk fever.

Dun attributes the transient improvement which followed his treatment in both cases to the vaso-motor effect of the caffeine, by which the brain obtained an increased current of blood. He regards the infusion of the udder as having been quite useless. When the artificially raised blood pressure subsided again, further depression followed. Moreover, in the first case, Dun considers that the caffeine really accelerated the fatal course of the illness by increasing the internal hæmorrhage.—*Münchener Tierärztl. Wochenschr.*

CARDIAC INTERMITTENCY IN THE HORSE.

Dreyer reports (*Zeitschr. f. Veterinärk*) the results of investigations he has made to determine the frequency of cardiac arrhythmia in the horse. He examined all the horses of two regimental squadrons with this end in view, and the results were surprising. Out of 272 horses he found 42 (equalling 15.5 per cent.) affected with intermittence of the pulse and heart. The cases were fairly evenly distributed between the two squadrons.

Five horses showed regular intermittences (at the fourth, fifth, or sixth heart-beat). In all the others the intermittences were irregular. The irregularities did not always exist in equal intensity in the same case, but showed variations. In most of the horses the irregularities increased in consequence of movement. The sounds of the heart were always pure, and the heart-beats were generally of normal strength. The proportion of affected animals rose with age—for instance, 36 per cent. of horses from fifteen to eighteen years old were affected, and not quite 6 per cent. of horses from four to six years old.

As causes of the condition, Dreyer suspects nervous disturbances, the strain of work, equine pneumonia, and influenza.

Some of the affected horses were poor workers, but in most cases there was no diminution in the

capacity for work. Only longer observation can yield a conclusion as to the significance of the affection.—(*Berliner Tier. Woch.*) W. R. C.

ASPERGILLUS FUMIGATUS POISONS.

Two toxins are produced by this fungus, one a convulsivant soluble in ether, the other a depressant insoluble in ether and volatile.—*Ann. Inst. Pasteur.*

[This fungus has not yet been cleared of complicity in the enzootic paralysis of horses noted in S. Australia, the depressant seems the more common toxin there. Trans.]

BOVINE ONCHOCERCHIASIS.

It appears most likely that *Stomoxys calcitrans* is the insect host concerned in the transmission of the embryo of this parasite from host to host. Embryos from the worm nest are occasionally liberated into the blood stream, and this fly has the opportunity to imbibe one or more of the sparsely distributed embryos, and after a partial development to inoculate a fresh vertebrate host.—*Jour. Trop. Med. and Hyg.* F. E. P.

YORKSHIRE VETERINARY MEDICAL SOCIETY.

The Spring meeting was held at the Hotel Metropole, Leeds, on Friday, April 25th, at 4 p.m. The President, Mr. J. Abson, Sheffield, being unavoidably absent, the senior Vice-President, Mr. A. McCarmick, Leeds, was voted to the chair, being supported by the following members: Messrs. S. Wharam, H. G. Bowes, F. Somers, G. E. Bowman, A. W. Mason, G. C. Barber, W. Crawford, Leeds; E. H. Pratt, Northallerton; A. Ellison and W. Edmondson, Harrogate; J. McKinna, Huddersfield; A. W. Noël Pillers, Liverpool; T. C. Fletcher, S. E. Sampson, and H. Thompson, Sheffield; S. Chambers, Kirkheaton; G. W. Carter and H. M. Holland, Keighley; G. W. Davidson, Wetherby; F. W. S. Clough, Halifax; J. R. Simpson, Ripon; J. A. Hodgman and M. Robinson, Barnsley; G. Whitehead, Batley; W. P. Weston, York; C. Pitts, Bradford; P. Deighton, Selby; J. M. Bell, Brighouse; H. Pollard, Wakefield; J. S. S. Woodrow, Swinefleet; and J. Clarkson, Hon. Sec. Mr. A. A. Walker, Harrogate, was present as visitor. The minutes of the previous meeting, as published in *The Record*, were adopted on the proposition of Mr. Bowes, seconded by Mr. Robinson.

Apologies for non-attendance had been received from The President (Mr. Abson) and Messrs. Cockburn, Pratt (Ripon), Lloyd and Lazenby.

A letter from Mr. Lloyd, Hon. Sec. North Midland Society, was read suggesting that a joint summer meeting be held at Sheffield. This was considered to be an excellent suggestion, and on the proposition of Mr. Chambers, seconded by Mr. Wharam, the Council was instructed to make the necessary arrangements.

New Member. Mr. P. ABSON, Doncaster, was unanimously elected a member of the Society on the proposition of Mr. J. McKinna, seconded by Mr. H. G. Bowes.

Mr. TAINSH, Grimsby, was nominated by Mr. J. S. S. Woodrow.

The Report of the Council on the "Milk and Dairies Bill" was read by the Secretary and Mr. Pillers and Mr. Fletcher spoke in reference to it.

National Veterinary Association "Inspectors' Fees." Mr. PILLERS suggested that the scheme of the National Association should be taken as a basis in order to obtain better terms for the Inspectors in various districts.

After some discussion Mr. E. H. Pratt proposed that the best thanks of the Society be given to them for bringing the matter forward and that the Society do its utmost to adhere to the scheme as laid down, seconded by Mr. Pollard and carried.

THE TREATMENT OF PSOROPTIC MANGE IN THE HORSE.

By A. W. NOËL PILLERS, F.R.C.V.S.

Mr. Chairman and Gentlemen,—When your President asked me, on March 28th, to give you a paper on some parasitic affection, at the end of April, I hardly knew what to choose. I need not say that at all costs I was determined to do something to try and show the Society and Mr. Abson how greatly I appreciate the many kindnesses which both have extended to me on so many occasions. During the various discussions on parasitic diseases which seem somehow or another to arise when I join in a group of practitioners, I am often reminded that life histories and bionomics are all very well in their way, but that treatment is the one important thing. Schmidt and his cure for milk fever is the glorious example which is often quoted. I therefore wish to make a few remarks about the treatment of psoroptic mange in the horse.

I do not want any other point or animal brought into the discussion, and then I am sure that we shall all learn a great deal from the experiences of so many old practitioners. I do not intend to bother you with such important details as to how the animal became infected, or how the infected horse passes it on to his stable companion, or that the parasite can be seen easily on the skin in the immense majority of cases, or what happens to the *Psoroptes communis equi* when various bland oils or fluids are poured on it, under the microscope.

Our horse has psoroptic mange, uncomplicated, which is by far the commoner of the two scheduled forms, and we want to cure him absolutely without any references to his harness or surroundings.

The remarks which are about to be made are based on the records of 824 cases treated in different ways, and although you will most likely disagree strongly with what I am going to say, I feel sure that if you kept a similar record you would be forced to the same conclusion. Now the psoropt lives on the skin, and is not difficult to kill, so that if one observes the following principles in detail, treatment should be successful in a minimum amount of time. It is the time that animals are kept in the stable that is one of the team-owners' greatest grievances against the Parasitic Mange Order of 1911. The success of treatment depends upon the strictest attention to details which may be better termed minutiae.

1. **Clipping.** It is essential to clip the animal down to just below the stifles and elbows; there are many cases in which this is not done, either the owner has some peculiar ideas as to the value of the winter coat, or he is afraid of spoiling the animal's spring coat. I know veterinary surgeons who do not consider clipping necessary, but if they were to analyse the results of their cases with regard to toxic symptoms, secondary pneumonia, and recurrence, they would be surprised. This mange is a disease of winter and long coats, and the value of removing the "cover" for the acarus is all important. I consider that the mane and tail should also be removed, because the parasite is in these places capable of obtaining a living without producing lesions of clinical importance for several weeks or even months.

Besides reducing the death rate from toxic symptoms and pneumonia, a clipped animal uses less dressing. It is often wise in badly affected cases to use an old pair of clipping blades on account of the liability of scurf to

break the teeth. Clipping has other values; it reduces the activity of the parasite in winter, and so has a therapeutic value; it also shows the full extent of the disease. I cannot speak authoritatively with regard to the value of slow yet careful gas singeing immediately after clipping. In a few cases I found it apparently hastened a cure, whilst in others nothing appreciative could be noticed. If the weather and animal be warm, then it kills a great number of the causal parasite. If the treatment described hereafter be carefully carried out, I do not think singeing is necessary.

2. Removal of abnormal epidermal products. This is the next most important step. It is simple or difficult according as to whether the case is a recent and untreated one, or an old standing and blistered skin. It is to be accomplished by the addition of about 2 to 3 ozs. of soda, or acetic acid, to the gallon of hot water and using this on the animal's body with soap. A most important point here is the choice of a suitable soap. Many soaps blister the horse's skin, and this is the one thing that must not happen if a cure is to be effected. Roughly speaking, any soap that can be used on a man's face and arms will be safe. After the animal has been lathered and soaked all over, the scrubbing brush will remove practically all the scales. Special attention will have to be paid to the mane and tail, and also to seeing that the animal is washed absolutely all over. There is no great objection to the addition of a little of one of the coal tar disinfectants to the water at this stage, although I think that it can just as well be saved for other purposes. After all the soap has been removed by warm water, the animal should be dried, rugged and exercised, and bedded on straw. With proper grooming and exercise, many recently infected and untreated cases will recover without further treatment. I do not recommend stopping here, however, but only mention it as bearing out the chief aim of this paper, viz., to show that in my experience, treatment is more often than not, too energetic, and worse than the disease.

3. Application of an anti-psoric dressing. On the day after washing, the animal has to be dressed with some agent which will kill the parasites that have survived their drenching in soap solution. The choice of an improper agent for this is by far the commonest cause of error in the treatment of this mange. I cannot do better than quote here in full a few remarks from Megnin:—

"On s'attaque à la cause déterminante, c'est à dire au sarcopte, par des agents qui ont la propriété de tuer le parasite. Mais si les parasitocides sont nombreux, il y a un grand choix à faire parmi eux; beaucoup sont dangereux, et il ne faut pas s'exposer, en voulant tuer une mouche, à écraser la tête de celui qui la porte, comme l'ours de la fable, certainement on guérira la gale sarcoptique avec le pétrole et la benzine, mais en causant, en même temps, une irritation de la peau, qui persistera pendant de longues semaines, en provoquant l'apparition d'une affection artificielle qui a autant d'inconvénients, au point de vue de l'utilisation de l'animal, que la gale elle-même. C'est ce qui résulte d'expériences nombreuses et répétées que nous avons faites. Ces mêmes expériences nous ont démontré qu'on peut guérir la gale au moyen de substances qui tuent l'acarus en laissant à la peau tout la souplesse et toute la netteté, ce qui permet l'utilisation du cheval immédiatement après sa guérison, qui peut être obtenue en huit jours.

Il y a deux substances qui sont deux acaricides par excellence—le soufre et la nicotine. Ces substances mêlées à des excipients doux comme les corps gras liquides ou non, constituent les meilleures préparations contre la gale. On peut préparer une pommade soufrée, économique avec des graisses communes allongées d'huile, qui est très efficace, dans la proportion de 200 grammes de soufre sublimé pour 1 kilogramme de graisse.

Le carbonate de potasse qui entre dans la pommade d'Helmeric, du *Coder* est parfaitement inutile."

You will notice his strong remarks concerning drug dermatitis, that the disease can be cured in eight days, the high position occupied by sulphur and nicotine as parasitocides harmless to the skin, and the uselessness of alkalies in the dressing. My experience with this form coincides exactly with Megnin's of sarcoptic mange, with one exception, viz., that tobacco dust, which is used on account of its nicotine containing properties, varies greatly in its composition, and I have seen several deaths from its employment. Oil and sulphur are then to compose our dressing. The sulphur demands no comment, but the choice of a suitable oil is most difficult, both from the therapeutic and pecuniary aspects. A suitable oil must not blister the skin, nor dry with a varnish-like layer, nor tend to turn rancid, nor prevent the normal functions of the skin taking place. In addition to these, it must be cheap. It is most difficult to get an oil to answer all these requirements and one has to fall back upon the least harmful.

There are many bodies such as lard, lanoline, vaseline, or petrolatum (suet, horse fat and goose grease are rarely used in veterinary pharmacy) and palm oil, which although occasionally employed can be discarded at once. They are dangerous when applied over large surfaces. Rape, linseed and castor oils either cause dermatitis soon after application, or later on by forming a varnish-like film; olive oil is too dear, in addition to its tendency to become pasty in cold weather, to oxidise in air, and then go slowly rancid. The least dangerous oil is, I think, train oil. It is cheap (April, 1913, 2.9 gall.). I have recently heard cotton oil spoken highly of. A peculiar feature about most oils is that for a period you will have no untoward damage to the skin, and then with the advent of a new supply of oil, comes marked skin corrugation in the treatment of your mange cases. This may be due to substances used in the refining process having settled to the bottom of the barrel. The proportion of sulphur to oil will vary from 1:10 to 1:5 by weight. It is important that this dressing be supplied in an open vessel, such as a bucket, which can be stirred with a stick. Narrow necked opaque jars often contain several inches of sedimented dressing when broken. The animal should be covered twice, the near side and then the off, at an interval of 24 hours. Here detail is essential, places commonly missed are the forehead, mane, tail, submaxillary space, breast, and inguinal region.

4. Exercise and Friction to Skin. The animal must now receive night and morning a good grooming with a duster, which can be wrung out in a suitable solution of some coal tar preparation.

Exercise must be given twice a day. These last two items are as important as the others.

If a repetition of this course of the treatment is necessary, it can be undertaken on the 6th to 8th day, after which the animal should be able to resume work. The coat of a clipped and treated animal grows very quickly, and some time after returning to work, no harm can be done by again clipping and applying a dressing when it is at rest at the week end.

I know that mange cases are left in the stable and neglected, and that accounts for a great deal of the untoward sequelæ which we have to put up with. Many practitioners will recommend the addition to oil and sulphur of discentives, such as the alkaline carbonates or acetic acid; their work should, however, have been done before the dressing is applied. Oil of tar will be used by others. Some I know will laud tobacco refuse, but its varying composition is enough to my mind to bar its use. Lime and sulphur will have its advocates. Proprietary dips I have seen used extensively with terrible results. Admirable though many of them may

be, they lend themselves to careless or over anxious uses by horse-keepers or owners. If a small quantity is given out, half to be used in a bucket of warm water once a week, you may rest assured that the careful or careless man is most likely to use all the material in about three-quarters of a bucket of water and apply it for two or three days in succession with disastrous results to the skin. I do not think that watery dressings on the horse have given such good results as one expected. The damaged skin, now more prone to irritation, wants some bland oil to replace the deficient natural oil and protect the abraded surfaces from the action of the air or acrid discharges. What I want to insist is that our treatment must be mild. Perhaps it may be said that I am going too far in the mild direction. I am satisfied that I am not, but I am sure good will be done if some of the heroic treatments of to day are replaced by milder measures.

5. Terminations. Before starting to treat cases of psoroptic mange, it is well to take into consideration the animal's age, its value and the reliability of those who will have to attend it. If the animal is 14 to 16 years old, and worth about £10 to £15, and its attendants are going to forget all about the animal after its first dressing, then the most humane and economic treatment is a bullet; for death will result sooner or later under this neglect.

Acute dermatitis is probably one of the commonest results of many systems of treatment, the skin becomes so tender that further dressings cannot be applied, and the case passes into:

Sub-acute drug dermatitis with partial recovery. If any abnormal condition of the skin is set up before the animal has been dressed all over, or if all the scab is not washed off, then a complete cure is almost impossible, because the parasites migrate into the epidermal cover resulting from dermatitis, and the skin is so tender that they cannot be removed. I have found live parasites after two months of severe veterinary treatment: it is explained on these grounds. The time in the stable under this heading varies from 4 to 6 weeks, and it is only when the animal has oil applied to its coat and is left alone that it begins to improve.

Chronic drug dermatitis is a very common sequel, resulting from repeated applications of a dressing whose effects are only moderately drastic. The skin after about six weeks becomes very thick, and nothing but a run at grass and "time" will make much improvement.

Apparent recovery is the next in order. I say "apparent" because if the mane and tail have not been treated there is likely to be a recrudescence of the disease when the next cold weather sets in.

Death is a common termination of mange, it results from a blocking of the skin with oily dressings when the animal is covered all over at once and the oil dries, or is not kept moving by the duster, or by exercise. The train of symptoms here is that of fever. If the animal is covered with oil in the proper manner and left standing for a week, the lungs take on the extra work of getting rid of the watery vapour and so the natural defences are weakened. There is fever and death from gangrenous pneumonia. A great number of deaths occur about two days after the animal has returned to work. This is due to lack of exercise when under treatment, coupled with weakened lungs resulting from a semi-functional skin. I did not see one death from washing in water in winter in an outbreak of 24 animals. Death from chronic poisoning has, in my experience, been most commonly caused by tobacco dressings. Of the satisfactory termination, complete recovery, it is unnecessary to say anything.

DISCUSSION.

Mr. FLETCHER complimented Mr. Pillers on the excellent paper he had just read, and remarked that to

cure mange, according to the writer, was the very simplest matter possible, but in actual practice one does not always find it so, and many cases arise that would puzzle the simple remedy people. He thought it was often necessary to add something more drastic than sulphur and train oil, such, for instance, as some tar preparation or even paraffin, as it seemed in some cases necessary to almost blister the skin to effect a cure. He knew there was often some dermatitis after mange, which no doubt Mr. Pillers would say was due to bad treatment, but he must repeat that he did not always find the mild methods advocated, to be successful. He would also like to ask what form and what quantity of nicotine Mr. Pillers would use.

Mr. WHARAM agreed that cleanliness was the finest thing in the world, and was perhaps the most important factor in the cure of all parasitic skin diseases, and particularly mange. He related a story of a case of mange in a horse belonging to a skin specialist which he had attended and cured by very simple means.

Mr. POLLARD said that ten years ago he had a considerable amount of mange, and his treatment, though not drastic, was not quite so mild as advocated. He invariably had the animals clipped and dressed with a mixture of rape oil and sulphur, to which was added a little creosote, potass. carbonate, and paraffin. This treatment was used with great success, and usually only meant keeping the horses in for ten days, they being then generally fit for work.

Mr. BOWMAN after thanking the essayist for his very interesting paper, said he had had considerable experience of mange, and generally found little difficulty in its treatment. He generally used train oil and sulphur, with spirit of tar. Occasionally when the withers were badly affected he used, quite locally, a small quantity of mercurial ointment, 1 to 8.

Mr. G. W. CARTER said he had listened to Mr. Pillers with great interest, and thought the Society was greatly indebted to him. For the last few years he had only little to do with mange and he attributed this to the improved hygienic conditions. Years ago he saw very much more and had not had much difficulty in effecting cures. His treatment was that used by his father, and consisted of oil, sulphur, turpentine, and spirits of tar, and he had found the same treatment successful in dogs.

Mr. SAMPSON also thanked Mr. Pillers for his interesting paper, and said that during the last two years he had seen a good deal of mange. He considered that the treatment advocated by Mr. Pillers was too mild, and thought if all cases were so treated some of them would take much longer to cure. He preferred to err on what he regarded as the safe side, and use a stronger dressing such as the ones which had been suggested by several of the previous speakers.

He did not favour the use of rugs when the horse was clipped, as they absorb so much of the dressing and get so dirty. The stable should of course be warm, and no untoward result would occur. He agreed with one of Mr. Pillers remarks early on "The treatment's the thing."

REPLY.

Mr. PILLERS said he did not regard the treatment of mange as simple in all, but it is so in many cases. Five hundred and thirty-three cases had been reported in Liverpool, and of these 143 had died under treatment or were slaughtered, so he thought there was room for improvement. In many cases which recur it is possible the dressing has been faulty—say the mane or tail left. He wished to impress on his audience the great necessity of clipping and thoroughly washing. It is possible for the psoropt to live for twelve months without causing clinical symptoms. He still failed to see why blistering should be necessary to destroy a

parasite which lives on the skin and on its products. Tobacco as a dressing he did not like, it was too variable to be safe.

Mr. Wharam's remarks do not call for comment except to say that mercurial ointment is a very dangerous dressing.

He regarded Mr. Pollard's dressing as rather strong, but was pleased to hear that he got most of his cases to work in 10 days.

Mr. Bowman's treatment he considered quite good, but he did not agree with him—or it was not his experience that mange was such a simple matter as Mr. Bowman had found it.

In regard to Mr. Sampson's remarks, he preferred to use the alkali before dressing instead of including it in the dressing, as by that means the *débris* is removed before the dressing is applied, which is thus rendered much more effective.

In conclusion he thanked the members for the very kind way in which they had received and discussed his paper.

A vote of thanks to Mr. Pillers was very heartily accorded, on the proposition of Mr. McKinna, seconded by Mr. Bowes.

The SECRETARY then announced that a very pleasing duty fell to his lot. It would be within the recollection of those present that Mr. Pillers had given to each member the opportunity to attend a series of demonstrations which were extremely instructive and which had been very greatly appreciated by very many members of the Society, who did not wish the occasion to pass without marking their appreciation in a more practical way than by a mere vote of thanks, and in handing Mr. Pillers a fitted travelling bag, he said he hoped the two would have many happy journeys together.

Mr. PILLERS in reply, expressed his thanks for the handsome present, which he had not expected, as anything he could do for that Society he was very willing and pleased to do.

Afterwards those present were entertained to tea by the Society.

Royal College of Veterinary Surgeons.

FIRST MEETING OF COUNCIL.

A meeting of the Council was held at the College, 10 Red Lion Square, London, W.C., on Friday afternoon, July 11th. Prof. A. E. Mettam, President, occupying the chair. The following members were present:—Major-General Pringle, Major-General Thomson; Professors Bradley, Sir John M'Fadyean, McCall, Share-Jones; Messrs. Abson, Banham, Burt, Carter, Clarkson, Dunstan, Garnett, Hobday, Lawson, Mason, McL. McCall, McKinna, Mulvey, Packman, Shipley, Slocock, Sumner, Trigger, and Wharam; Mr. George Thatcher (Solicitor), Mr. Fred Bullock (Secretary).

MINUTES.

The minutes of the meeting of Council held on July 5, 1912, which had been printed and circulated, were, on the motion of Mr. Abson, seconded by Mr. Mulvey, taken as read and confirmed.

ELECTION OF PRESIDENT.

Mr. MULVEY: Mr. President, I have very great pleasure in proposing the election of Mr. Carter as our President for the ensuing year. Mr. Carter has been a member of this Council for some sixteen or seventeen years; he has been assiduous in his attendance at the

meetings of Council, and has done good work for the profession. It affords me very great pleasure to propose him as President. (Cheers).

Mr. LAWSON: I would like to second that motion, and in doing so to endorse all the remarks that have fallen from Mr. Mulvey. I would like to say that coming from the Provinces, as they say in London, I am sure the election of Mr. Carter will be very well received in Lancashire. (Cheers). He has done a great deal of very good local work—I may term it—in Lancashire for the various Societies he has been connected with, and nobody is more respected and more highly honoured in his own town of Burnley—some of you London men may not have heard of Burnley (Laughter)—than he is. Burnley is a large town with a lot of very wealthy people, including my friend Mr. Carter, and great numbers of those people come to London and spend their money. I think under all the circumstances you could not do better than elect Mr. Carter as President for the ensuing year seeing that he possesses qualities very suitable for the position. (Cheers).

Mr. ABSON: Mr. President and Gentlemen, I should like to be allowed to support the proposition. I have known Mr. Carter perhaps longer than any other member round this Board, and I have only known him to respect him. I am sure that if elected to the Presidency of this Council he will fill the chair with honour and dignity to himself and to ourselves. I have very much pleasure indeed in supporting the proposition.

The PRESIDENT: Are there any more nominations? If not I will put the motion—that Mr. Carter be elected President for the ensuing year.

The resolution was then put and carried unanimously.

The PRESIDENT: I declare Mr. Carter elected President for the ensuing year. I wish to offer him my felicitations and to wish him a very happy year of office. (Cheers).

The chair was then vacated by Prof. Mettam, and after Mr. Carter had been decorated with the chain and robe of office he took the chair amid hearty cheering.

The PRESIDENT (Mr. Carter): Mr. Mulvey, Mr. Lawson, Mr. Abson, and gentlemen,—I thank you most sincerely and from the bottom of my heart for the very great honour that you have this day conferred upon me—the greatest honour that this Council has in its power to confer upon any of its members. I do not enter upon this office lightly and without due consideration, knowing as I do the great importance of the office and the responsibility and work which it entails. At the same time I promise you, gentlemen, to give you my best. I will try and uphold the dignity of the chair to the best of my ability, and I hope and trust when the time comes that I have to hand over the badge of office and the regalia to my successor, they will be in as pure a condition as I received them from my predecessor, Prof. Mettam. As you know, gentlemen, preceding me, we have had an exceptionally energetic President. It has been said before, that Professor Mettam during the two years term of his office has traversed something like 10,000 miles in the pursuit of his duty as the President of this College, and I believe he has attended between seventy and eighty meetings. You will readily understand, therefore, that following in the wake of such an able and energetic President makes my task very much the greater. Gentlemen, I thank you sincerely and from the bottom of my heart for the great honour, and I trust that I shall conduct the meetings creditably not only to myself but to this Council, and to the satisfaction of the whole of the profession. There will be nothing wanting on my part to try and make everything go smoothly. At the same time I take courage from the fact that I shall have the able counsel, guidance, and help of every gentleman round

this table. (Hear, hear). I would like before I sit down to express my grateful thanks to every member of this Council for the kindness and courtesy that have at all times been extended to me since I have had the pleasure of sitting at this table, sixteen years. I thank you one and all, gentlemen, for the very great honour you have conferred upon me. (Cheers).

Mr. TRIGGER: Mr. President, in offering you my personal congratulations, which I very sincerely do, upon your election as President, I am going to ask you to accord me the privilege, which I am sure you will do, of proceeding at this stage, without losing one moment, to accord to our ex-President a very hearty vote of thanks for the admirable manner in which he has conducted our proceedings during the past two years. (Cheers). I rise very hastily because I am quite sure that every member of the Council is anxious to occupy the position I at present occupy of proposing the resolution; but I venture to claim that it is my privilege to do so so inasmuch as two years ago I had the honour of proposing that Prof. Mettam should be elected President of the College. Whether or not that suggestion of mine that Prof. Mettam should be elected as President has been justified, I leave it to this Council to say. You have remarked, sir, upon the yeoman service and the great work he has done for the profession. We here know that no man could possibly have behaved in a more whole-hearted manner in the interests of the profession than Prof. Mettam has done. That is infinitely to his credit, and it stands as a record of the amount of work he has done on behalf of the members. We have had the pleasure during the past two years of seeing at our head, a gentleman of influence and position who carried a great deal of weight whenever he appeared to represent the Council. I am sure the veterinary profession recognises the debt of gratitude they owe to Prof. Mettam, and everybody I am sure wishes to pay him the compliment of placing on record not only on behalf of this Council, but on behalf of the profession generally a cordial vote of thanks for the most admirable, dignified, and courteous manner in which he has filled the position of President during his term of office. I move that such a resolution of thanks be placed on the minutes of the Council. (Cheers).

Mr. MULVEY: Mr. Trigger has advanced as one reason for proposing a vote of thanks to Prof. Mettam that he had the honour and pleasure of proposing him as President two years ago. I think that I also have had the honour and pleasure of proposing Prof. Mettam as President, and while I claim to speak on that ground I should like to say how thoroughly I endorse everything that has fallen from Mr. Trigger with regard to the work that Prof. Mettam has done. He has, as Mr. Trigger said, entered whole-heartedly into the work of this Council, and he has not only carried it out to the satisfaction of the Council, but I am perfectly certain that the whole of the members of the profession will recognise the distinguished ability which he has brought to bear on the work. (Cheers).

The resolution was then put and carried with acclamation.

Prof. METTAM, who on rising to reply was very cordially received, said: Mr. President and Gentlemen,—I thank you very much, from the bottom of my heart, for the exceedingly kind expressions that have gone forth from the proposer and seconder of this resolution, and also for the way in which you, Gentlemen, have received it. It has been a great pleasure for me to do what I can for my profession, and if I have in the slightest degree merited this very high eulogy which has been placed upon my services I am more than happy. It was the greatest possible compliment paid to me to be elected President of the Royal College of Veterinary Surgeons. If possible a greater compliment was paid me by re-electing me, and to find that you are satisfied

with what I have done, more than compensates me for any labour it has involved. I can assure you it will be one of the most cherished possessions of my life to find that what I have done has been agreeable to my profession. I thank you very much. (Cheers).

ELECTION OF SIX VICE-PRESIDENTS.

The SECRETARY: The six Vice-presidents last year were Messrs. Bradley, Carter, Lawson, Lloyd, Roberts and Wharam.

Mr. TRIGGER: I move that those gentlemen be re-elected *en bloc*, and that Prof. Mettam take the place as Senior Vice-president of the late Mr. Roberts.

Major-General Thomson, Mr. Clarkson, Mr. Price and Mr. McKinna were also nominated, and Messrs. Lawson, Clarkson and Thomson requested that their names should be withdrawn, Mr. Clarkson saying: Personally I feel rather strongly that the position of Vice-President of this College is a particularly honourable one, and that it is not right that a man who enters the Council should step straight into the Vice-Presidency. I think he should earn that title before he gets into it.

Eventually the following six gentlemen were elected as Vice Presidents: Prof. Mettam, and Messrs. Lloyd, Wharam, Price, McKinna and Lawson.

ELECTION OF TREASURER.

Mr. TRIGGER: I have very great pleasure in moving that Mr. Mulvey be reappointed Treasurer of the College. I cannot imagine that we could possibly think of electing anyone else as long as we have Mr. Mulvey with us. I am sure you will all agree with me that what has been said about Prof. Mettam as President applies equally to Mr. Mulvey as Treasurer. The profession look upon him as their Treasurer. (Cheers).

Mr. MASON: I second the motion. Although Mr. Mulvey keeps on shaking his head at the very miserable condition of our finances I do not think we can do without him.

Mr. LAWSON: I am delighted to support the motion. The resolution was then put and carried with acclamation.

Mr. MULVEY, who was received with cheers, said in reply: I have to thank the members of the Council for re-electing me to this very honourable position. At the same time although it is a very honourable one it is also a very onerous one.

Mr. TRIGGER: Your duties get lighter every year!

Mr. MULVEY: Mr. Trigger has interpolated the remark that my duties will get lighter every year, but I am afraid I cannot look forward to that at present. I hope that in the distant future the funds of this College will be in such a position that the Treasurer will be able to say he is quite willing that money should be spent on anything and everything that is necessary for the advancement of the profession. (Hear, hear). At the present time he is obliged to say "No" to many projects that he would like to see go forward. (Hear, hear).

ELECTION OF SECRETARY AND REGISTRAR.

Prof. METTAM: May I be permitted to propose the re-election of Mr. Bullock as Secretary and Registrar of the College. I have had an intimate acquaintance with the work of Mr. Bullock for the last two years, and I can assure this Council and the profession that we have no more energetic, no more satisfactory and no more enthusiastic servant. It would not be possible to contemplate a more energetic or more enthusiastic servant. Mr. Bullock has the work of this Council and the interests of the profession at his fingers' ends, he knows exactly what to do, and, when occasion arises, he invariably does the right thing. I think this College and the profession are extremely lucky in having such a good Secretary as Mr. Bullock, and in full knowledge I ask you to unanimously re-elect him to the post of Secretary.

Personally I may tell you that I am extremely satisfied—I mean officially—with the work that Mr. Bullock has done and the enthusiasm and energy that he throws into it. (Cheers).

Mr. MULVEY: I must ask to be allowed to second this proposition. I have perhaps been more intimately acquainted with Mr. Bullock during the time that he has been Secretary of this College than anyone else at this Board, and I can only say that in seconding his election I support every word that has fallen from our late President. I know Mr. Bullock's work and worth, that he is wrapped up in the work of the College, that he whole-heartedly carries out all the wishes of this Council and does everything to their satisfaction. (Cheers).

The resolution was then put and carried with acclamation.

Mr. BULLOCK, who was received with cheers on rising to reply, said: Mr. President, Professor Mettam, Mr. Mulvey and Gentlemen, I thank you for my re-election. The kind words which have fallen from Prof. Mettam and Mr. Mulvey make it difficult for me to find suitable words to reply to them, but I am deeply sensible of the honour you have done me, both by the re-election and the manner of the re-election.

This concluded the business of the Meeting of Council.

QUARTERLY MEETING OF COUNCIL.

The President, Mr. J. H. Carter, occupied the Chair and the same members were present as at the Council Meeting.

MINUTES.

The Minutes of the last meeting, which had been printed and circulated, were, on the motion of Mr. Sumner seconded by Mr. Lawson, taken as read and confirmed.

OBITUARY.

The SECRETARY read the Obituary List.

Mr. MULVEY: I rise with feelings of very deep regret to propose that a vote of condolence be sent to the families of two of the late members of this Council, who have left us since our last meeting. Mr. Roberts was present at our last meeting, and his death came very suddenly. He was a member of the Council for several years, and was respected by all with whom he came in contact. Mr. Faulkner was also a member of this Council, and did his duty well while he was with us. I beg to propose that a letter of condolence be sent to the members of their families in their bereavement.

Mr. GARNETT: Mr. President and Gentlemen, I beg to second the proposition of Mr. Mulvey, and to bear out all that he has said. I feel very sorry, as I know you all do, with regard to one of the two who have been mentioned, but perhaps it comes nearer home to me because I was one of Mr. Roberts' old pupils. During the whole time that I knew him I never knew anyone who had the respect of everybody with whom he came in contact in a higher degree than he had. All his old pupils speak as I do of him, and we know better than anyone else the sterling worth of his character. No one ever went to Mr. Roberts for help but it was afforded to him, and this applies not only to members of the profession but also to friends outside the profession. I knew no one who was more universally respected than Mr. Roberts.

The PRESIDENT: I should like to associate myself with this sad task, and to say that I was personally acquainted with both Mr. Roberts and Mr. Faulkner; they were both great friends of mine. I knew Mr. Faulkner for a great number of years, in fact I succeeded him on this Council when he retired. I always found Mr. Faulkner a gentleman, and one who was a

hard worker in his profession—in fact a slave to his profession.

The resolution was then carried in silence, all present upstanding.

CORRESPONDENCE.

The SECRETARY announced that apologies for inability to attend the meeting had been received from Mr. Lloyd, Mr. Barrett and Mr. T. S. Price, the latter of whom was laid up with a badly fractured arm.

The Secretary further announced that letters had been received from Mr. Charles Roberts, Mrs. Hedley, and Miss Bower, thanking the Council for the letters of condolence that had been sent to their respective families.

The Secretary also announced that letters had been received from the Examiners elected at the last meeting thanking the Council for their appointment.

RIGHT OF WAY.

The SECRETARY: I have to report that on the 24th June in accordance with annual custom I passed through the doorway into the Yorkshire Grey Yard in order to maintain the right of way of the College into Yorkshire Grey Yard.

Mr. TRIGGER: I beg to move that that be entered on the Minutes.

Major-General THOMSON: I second that.

The resolution was agreed to.

PRESENTATIONS TO THE LIBRARY.

The SECRETARY announced that the following presentations had been made to the Library since the last Meeting of Council:—

Veterinary Parasitology, by R. H. Smythe, M.R.C.V.S.; Calendar of the College of Preceptors, 1913-1914; Second Report of the Director of Veterinary Research, Department of Agriculture, South Africa; Annual Report of the Bengal Veterinary College and of the Civil Veterinary Department, Bengal, 1911-1912; Reports of the Council and Auditors of the Zoological Society of London for the year 1912; Report of the Veterinary Surgeon to the Corporation of the City of Glasgow for 1912.

Memoirs of the Department of Agriculture in India, Vol. 1, No. 3. U.S. Department of Agriculture: A Study of the Bacteria which survive Pasteurisation; The Life History of *Habronema Muscæ* (Carter), A Parasite of the Horse transmitted by the House Fly; The Action of Arsenical Dips in protecting Cattle from infestation with Ticks; Chemical changes produced in Cows' Milk by pasteurisation; The Care of the Farm Egg.

A Note on some interesting Results following the Internal Administration of Arsenic in Canker and other Diseases of the Foot in Horses, by Major J. D. E. Holmes, M.A., D.Sc., M.R.C.V.S.; *The Rhodesian Agricultural Journal*, April, 1913; *The Bloodstock Breeders' Review*, July, 1913; *The Journal of the Board of Agriculture*, April, May and June, 1913; Orders of the Board of Agriculture and Fisheries; Leaflets of the Board of Agriculture and Fisheries; *Revue de Pathologie Comparée*, April and May, 1913; *The Journal of Comparative Pathology and Therapeutics*, March, 1913; *The Veterinary Journal*, *The Veterinary News*, and *The Veterinary Record* for the quarter.

On the motion of Mr. McKinna, seconded by Mr. Mulvey, a hearty vote of thanks was accorded to the respective donors.

FINANCE COMMITTEE.

Mr. LAWSON read the following report of a meeting of the Finance Committee held on July 4th, 1913, and moved its adoption.

Financial Statement. The Treasurer submitted his financial statement, showing liabilities amounting to £227 17s. 9d., and a balance in hand of £57 16s. 8d. It was resolved that the financial statement be adopted, and that the Treasurer be ordered to pay the liabilities shown, together with cheques for monthly salaries, examiners' fees and expenses, and examination expenses, gas, electric light.

Auditors Report. The auditors submitted their report on the College accounts for the year 1912-13, which was approved.

Mr. MULVEY: May I be allowed to say one word; it is simply on the old lines, that the balance in hand is now very low indeed, £57 16s. 8d. I have simply to tell the Council and the profession that we must have some more money. Before our next meeting we shall require somewhere about £150, and we have only £57 to meet the claims. So that although we hope to be able to carry on until next October, I want the Council to be prepared for giving me authority to sell out a further amount of Consols, which I am sorry to say I shall be obliged to apply for in October next. I say this, sir, because I want to draw the attention of the profession to the fact that they must not find fault with the Council for not carrying out the work that we recognise ought to be done. The reason we cannot do it is—want of funds.

The motion for the adoption of the report was then put and carried unanimously.

REGISTRATION COMMITTEE.

The SECRETARY read the report of a meeting of the Registration Committee held on Thursday, July 3, from which it appeared that nineteen cases were considered by the Committee. In the case of Wilkinson, a member whose name had been removed from the Register, a letter was submitted from Mrs. Wilkinson, but it was resolved that no action be taken. The Solicitor reported that the infringement had been discontinued in the case of "Sal-Vet." The Secretary was instructed to inform two members in a case of advertising that the issue of the circular submitted was a breach of professional etiquette. The report further stated: Information was received to the effect that G. R. Leighton, non-member, had been appointed Veterinary Inspector to the Local Government Board in Scotland. It was resolved to recommend: That the Local Government Board for Scotland be informed that as the appointment in question is a veterinary appointment, it should, in the opinion of this College, have been filled by a veterinary surgeon. The Secretary or Solicitor were instructed with regard to the course of action to be pursued in the remaining cases.

A letter was received from the Secretary of the Pharmaceutical Society of Ireland reporting the prosecution of a registered druggist for the use of the title "Veterinary Chemist," and it was resolved—that the thanks of the Committee be forwarded to the Society for the action taken in the matter.

A letter was received from Capt. Hylton Jolliffe requesting the College to take action with a view to exempting members from any further examination before commencing practice in Canada. It was resolved that no action be taken in the matter.

Letters were received from members whose alleged testimonials were published in Harvey's Horse-Owners' Notebook, stating that the proprietors of the Notebook had in each case undertaken not to repeat the announcement.

Restoration. The Secretary reported that the name of Mr. Lachlan McLean, of Brooklyn, had been removed from the Register in 1907 owing to incorrect information received from the Post Office. It was resolved that the name of Mr. Lachlan McLean be restored to the Register of Veterinary Surgeons.

On the motion of Prof. Mettam the Council then resolved itself into Committee for the purpose of discussing the report; and when the Council resumed its sittings in public it was unanimously resolved, on the motion of Prof. Mettam, that the report of the Registration Committee be adopted, subject to the following amendment in the case of G. R. Leighton:

"Information was received to the effect that Dr. G. R. Leighton, an unregistered person, had been appointed Veterinary Inspector to the Local Government Board in Scotland. It was resolved that a letter be forwarded to the Local Government Board for Scotland strongly protesting, on behalf of this College, against their action in appointing to the office of Veterinary Inspector a person who holds no registrable qualification as a veterinary surgeon.

That the President, with Sir John M'Fadyean and Mr. W. J. Mulvey be appointed a Sub-committee to draw up this letter of protest."

On the motion of Prof. Mettam, seconded by Major-General Thomson, authority was given for the Seal of the College to be attached to the various prosecutions recommended by the Committee.

EXAMINATION COMMITTEE.

Ma. MULVEY read the following report of the Examination Committee, held on July 3rd:

A letter (6/5/1913) was received from Mr. T. H. Greig asking whether women were eligible for the Diploma of the Royal College of Veterinary Surgeons, and the Secretary was instructed to reply that, under the present constitution of the College, the Council has no power to admit ladies to the examinations for the Diploma.

Educational Certificates. Educational certificates numbered 1346 to 1353 were submitted, and, with the exception of No. 1350, were accepted.

On the motion of Mr. McKinna, seconded by Major-General Thomson, the report was adopted.

PARLIAMENTARY COMMITTEE (INCLUDING MILK BILLS SUB-COMMITTEE).

Mr. GARNETT read the following report of a meeting of the Parliamentary and General Purposes Committee held on Thursday, July 3rd:

A letter dated 13/6/13 was received from the Secretary of the Northern Branch N.V.M.A., containing a resolution of thanks for the action taken by the College with regard to the Milk and Dairies Bills.

A letter (21/4/13) was received from the Secretary of the N.E.V.M.A., containing the following resolution: "That the members of this Association consider that the purchase and use of mallein and tuberculin should be confined to members of the medical and veterinary professions."

After discussion, it was resolved that in the opinion of this College, tuberculin and mallein should be standardised, and that the sale and use of both should be restricted to the medical and veterinary professions.

That a copy of this recommendation be forwarded to the Board of Agriculture and Local Government Board.

MILK AND DAIRIES BILLS.

The following reports were submitted by the Milk and Dairies Bills Special Committee:

A meeting of the Milk Bills Special Committee was held at the College, 10 Red Lion Square, on Wednesday, June 4th. Present: Mr. F. W. Garnett in the chair; Sir John M'Fadyean, Prof. Mettam, Mr. Mulvey, and Mr. Thatcher, Solicitor. The minutes of the previous meeting were read and confirmed.

Milk and Dairies Bill. The Chairman reported that revised amendments had been submitted to the Local Government, but that an agreement had not yet been reached as to the form of the words to be adopted. Arrangements had, however, been made with Mr.

Sanderson, M.P., to table the amendments now submitted, and to watch the matter in Committee.

Milk and Dairies (Scotland) Bill. The Solicitor reported the correspondence he had had with regard to the Milk and Dairies (Scotland) Bill, and, after discussion, it was resolved that a deputation consisting of the President, Mr. Garnett and the Solicitor be appointed to attend on the Local Government Board for Scotland, in order to submit the views of the College with regard to the amendments required to be made in the Milk and Dairies (Scotland) Bill.

A meeting of the Milk Bills Special Committee was held at the College, 10 Red Lion Square, on Thursday, July 3rd. Present: Mr. F. W. Garnett in the chair; Messrs. Mulvey and Thatcher. The minutes of the previous meeting were read and confirmed.

Milk and Dairies Bill. The Chairman reported that, after correspondence with the Local Government Board, the following additional clause had been drawn up to amend Section 2, but that at present the matter was still under discussion:

(3) "Where the medical officer of Health entering a dairy for the purpose of this section is accompanied by a veterinary inspector or other properly qualified veterinary surgeon, such inspector or surgeon shall conduct any examination of cattle therein that may be necessary for the purpose of ascertaining whether or not any of such cattle are affected with disease or the nature or extent of any disease affecting such cattle and the veterinary inspector or other properly qualified veterinary surgeon shall on receipt of instructions from the medical officer of health have power to enter any dairy and examine the cattle therein."

Arrangements had been made for Mr. Sanderson to table the above amendment in the House of Commons.

Milk and Dairies (Scotland) Bill. The Solicitor submitted the following report:

"We beg to report that on the 24th instant Mr. F. W. Garnett, Principal McCall, Dr. Bradley, and Mr. George Thatcher attended as a deputation of the Royal College of Veterinary Surgeons to the Local Government Board of Scotland, at the office of the Board in Edinburgh, and were received by Sir George McCrae, Vice-president; Mr. Ewan F. Macpherson, advocate; Dr. Leslie Mackenzie, medical member; and the Secretary and Assistant Secretary. The deputation was introduced by Sir Robert Wright, of the Board of Agriculture of Scotland. Mr. Thatcher stated the present legal position and what had taken place with regard to the English Bill, and Mr. Garnett and Dr. Bradley then stated the reasons why the proposed amendments were considered necessary. The Vice-president of the Board and the Medical Officer then stated that the Board saw no objection to the veterinary surgeon being the person to examine the cows, and they also considered that it was not unreasonable that he should do so in the absence of the Medical Officer but by his authority. Dr. Mackenzie said that it must be perfectly understood that if the Medical Officer at any time wished to examine an animal with a view of seeing whether it had been the means of conveying human disease, he was not to be precluded from doing so. The details were then discussed, and the Board was willing to recommend the insertion of the following clause after sub-section 2 of section 15, and they suggested that the proposed amendment in sub-section 1 might be omitted, but left this open for consideration:

(3) Where the Medical Officer of Health entering a dairy for the purpose of this section is accompanied by a veterinary inspector or other properly qualified veterinary surgeon, such inspector or surgeon shall conduct any examination of the cattle therein that may be necessary for the purpose of ascertaining whether or not any of such cattle are affected with disease or the nature or extent of any disease affecting such cattle, and the

veterinary inspector or other properly qualified veterinary surgeon shall on receipt of instructions from the Medical Officer of Health have power to enter any dairy and examine the cattle therein.

The Board also suggested that the College should draft some instructions as a guide to veterinary inspectors in carrying out the objects of the Bill, to be submitted for the approval of the Board.

Arrangements had been made for Mr. Price, M.P., to table the above amendment in the House of Commons.

It was resolved that the above reports be adopted.

Dogs (Protection) Bill. It was reported that this Bill was now at its second reading. And it was resolved "That a Sub-committee consisting of the Chairman, Sir John M'Fadyean, and the Solicitor be appointed to watch this Bill, with power to act."

Interpretation Bill. The new Interpretation Bill was submitted, in which it was found that the clauses relating to the Royal College of Veterinary Surgeons were in proper form.

Other Bills. The Protection of Animals (overloading of horses) Bill, and the Docking of Horses Bill, were also submitted.

Mr. GARNETT: I should like, before the reports are adopted, to say a word or two with reference to these Bills, because they have raised a great deal of controversy and discussion among the veterinary surgeons of the country generally; in fact I do not know two Bills which have been introduced into Parliament which have affected the profession as much as these two. You will remember that at the last Council I gave the assurance that when the time came, we would ask the profession to act as one body with regard to the Bill. Owing to the way we have been met by the Local Government Boards of England and Scotland there is no reason now to take any individual action. If the Bills are dropped for this Session they will be most probably introduced again, and then these clauses will be introduced into the new Bills. At any rate there is nothing more for us to do but to see that these amendments which you have accepted to-day are inserted in the Bill when it comes to the Committee stage. We have Mr. Sanderson acting for us with regard to the English Bill, and Mr. Price, of Edinburgh, with regard to the Scotch Bill, and with their assistance I think we may as a profession, feel perfectly safe in our position. (Hear, heard.)

On the motion of Principal McCall, seconded by Major General Thomson, the report was adopted.

HONORARY ASSOCIATES COMMITTEE.

Prof. METTAM read the following report of a meeting of the Honorary Associates Committee held on July 3rd.

Honorary Associates. The names of several gentlemen were submitted and considered. The further consideration of the matter was, however, deferred until the next meeting.

On the motion of Prof. Mettam, seconded by Mr. Lawson, the report was adopted.

BYE-LAWS SPECIAL COMMITTEE.

Mr. GARNETT read the following report of the Bye-laws Special Committee held on Thursday, 3rd July, 1913, and moved its adoption:—

Chairman. It was resolved that Mr. Garnett be appointed to the Chair.

Bye-Laws. It was resolved to recommend the adoption of the following Bye-laws, in accordance with resolution 17 of the meeting of Council, April 11th, 1913:—

"Students holding a diploma for a Degree in Arts, Science or Medicine of any University in the United Kingdom, or the diploma of Member or Licentiate of the Royal College of Surgeons and of the Royal College of Physicians, are exempted from attendance at the first year's course of lectures, and from the examination at

the end of that year, provided that each student so exempted shall be examined in the whole subject of Anatomy, in the Class B. examination."

"Applications from candidates possessing similar qualifications granted by colonial or foreign licensing bodies shall submit their certificates to the Examination Committee, who shall report to the Council as to the eligibility of the applicant for exemption or otherwise."

Mr. MULVEY seconded the motion.

Mr. SHARE-JONES: I was going to propose that as this is a matter of such vital interest, the Report be circulated to the members of Council and come up for discussion at the next meeting. I may be wrong, but if I interpret the Report correctly, you are proposing to exempt graduates in Arts from our first Professional Examination. Is that right? This is a very important matter, the most important matter we have had before us for a very long time. I move, therefore, that the Report be circulated to the members of Council and that it come up for discussion at our next meeting.

Sir JOHN M'FADYEAN: In any case it has to be suspended for three months, but I agree absolutely with Mr. Share-Jones. The question is whether we should not have this amended now, so that it may be suspended at once. If so I will support Professor Share-Jones if he will move that the word "Arts" be deleted, because it is obvious there are so few graduates in Arts who have attended courses in Biology and Chemistry that I really think we might leave them out without any hardship. You cannot possibly give our Diploma to a man who has had no instruction and has passed no examination at all in such fundamental subjects as Chemistry and Biology. I feel that I have no right to say anything on the subject because I ought to have been present at the Committee Meeting. Most unfortunately that was absolutely impossible, but I hope the Council will agree that it would really be better now to delete the word "Arts."

Mr. SHARE-JONES: Do not you think the case would be better met by the insertion in the Regulations of something to the following effect, that we exempt students who have already passed an examination in the corresponding subjects of the first year so far as it applies to Biology and Chemistry in any University or other examining body recognised by this Council in the British Isles, on the principle that any University exempts candidates who have already passed examinations in the corresponding subjects in other Universities? I think it is rather an injustice to a man who comes up for his Inter-Bsc., who has done all the Biology and all the Chemistry that he is ever likely to do so far as his Degree is concerned, that we should demand that he should go on to his Final for his B.Sc. before exempting him from his First Professional.

Sir JOHN M'FADYEAN: I think that is quite right.

Mr. SHARE-JONES: I would be prepared to move a resolution definitely at our next meeting on the subject, but I am not prepared to get up on the spur of the moment and frame such a resolution. It strikes me there are several very grave errors in the Report as it stands.

Prof. METTAM: I do not altogether agree with what Prof. Share-Jones has said. I do not think we should recognise any part of a Degree at all. It is the thin end of the wedge towards allowing men who have taken different courses in other Institutions to come and demand that we should recognise them. The resolution as read by Mr. Garnett speaks of graduates in Arts, Science and Medicine as well as Licentiates of the Colleges of Surgeons and Physicians, and I think at the present time at any rate it can only be expected that we shall give these men grace. I do not think that any man who has gone through a portion of a course in some other branch of science can legitimately claim that we should recognise that portion.

Mr. SHARE-JONES: It is done every day.

Prof. METTAM: In my judgment we should only accept these subjects when they have been part and parcel of his Degree Examination. The only amendment which I personally would suggest to the resolution is that as regards the Degree in Arts it should be necessary that it should include the subjects which we include in our first Professional. It is possible for a man to take a Degree in Arts including Botany, Chemistry, Physiology and other subjects, and I think if the Degree in Arts includes Biology and Chemistry, a man with such a Degree could claim to be exempted exactly as a man can with a Degree in Science or in Medicine.

Mr. SHARE-JONES: In view of the discussion I shall adhere to my proposition as a matter of fairness, that this important matter should be circulated to the members in order that they may come prepared with material for discussion at our next meeting. It is certainly too important a matter in my humble judgment, to be dismissed with a few moments' discussion such as we can have this afternoon.

Prof. METTAM: May I interpose just for a moment? This is only the Report of the Committee. Surely we can accept the Report and have it suspended on the board, and then it is open to Prof. Share-Jones or any other member of the Committee to amend it.

Prof. SHARE-JONES: I have just been informed by an old member of this Council that if it is suspended on the board I can simply move a negative to the whole thing; it cannot be amended. I am supporting the principle of freedom of discussion, that because a Report comes up from a Committee it does not signify that that Report must go through according to the laws of the Medes and Persians. That Report is placed before the Council to be discussed, and it is in order that we may have free discussion that I am asking that the Report may be circulated. It is the most important Report we have had for some long time, and I think every individual member of Council has a right to demand that important material of this kind should be circulated before it is discussed. I should like to correct Prof. Mettam in what he has said. We will take our friend Dr. Bradley. If Dr. Bradley takes a Degree in Science, he has not to pass an examination in the intermediate Science subjects again if he wishes to proceed to a Degree of Medicine where those subjects come in the curriculum. That is an axiomatic principle underlying the course of studies at all the Universities. If a man pass in a subject in one University, the students are not required to pass the same subject in another University.

Sir JOHN M'FADYEAN: In the same University. That is the difference.

Prof. SHARE-JONES: It is covered by the principle which underlies exemption, and that principle of exemption is being extended more every day, through an understanding which has been arrived at between the various Universities for the purpose of economising the time of the student.

Sir JOHN M'FADYEAN: I will put myself in order by moving this resolution: "That the matter be referred back to the Committee with instructions that they will so amend it as to give exemption to graduates in Arts who have passed in biology and chemistry." Although I admit that that there is some force in what Prof. Share-Jones says, I do not agree with him that we ought to exempt any candidate on the ground merely that he has passed some particular examination in biology or in chemistry. I agree with Prof. Mettam that we ought only to give exemption to those who have actually graduated. I may point out to Prof. Share-Jones—he will correct me if I am in error—that it was specially remitted to this Committee to frame a bye-law that would give exemption to graduates, not to undergraduates. The particular cases that Prof. Share-Jones referred to are cases in which a University, which

has examined its own students in a particular faculty; will allow them to proceed to an examination in another faculty without requiring them to be re-examined in the subjects that they have already passed in; but I am not aware that there is any University which will exempt from examination a candidate for its degree on the ground that he has already passed in that subject at another University. [Prof. Share-Jones: Oh yes]. If I am told that there are such cases I am still not convinced. I shall be prepared to support Prof. Share-Jones when he will come and show us that there are Universities who will accept our examinations in chemistry and biology although the student has not graduated. It is a case clearly for reciprocity. If there is any University which will accept our examination in biology and chemistry, independently of whether the candidate has taken the diploma or not, then I think it would be fair to give a similar concession to the University. In the meantime I think we can quite well defend our position in restricting the concession to those who have actually taken a degree. I move that this be referred back.

Prof. SHARE-JONES: I was asked to state if I knew a case of a University in which it was done.

Sir JOHN M'FADYEAN: I did not ask for it; I said I did not know of any; but it does not affect my position for the reason stated.

Mr. WHARAM: I beg to second that.

Mr. GARNETT: I am quite willing on behalf of the committee to accept Sir John's amendment that it be referred back to the Committee to make that addition with regard to the Arts degree. But I would point out, Sir, most strongly that the reference to this Committee was distinct and definite. It read as follows, and if Prof. Share-Jones had only read the reference, he would see that we could not possibly go into the matters which he has raised to-day: "That the bye-laws Special Committee be re-appointed with instructions to formulate bye-laws to exempt graduates in science and arts from the first professional examination, and the conditions of such exemption, and to report." If Prof. Share-Jones had any objection to that resolution, which he had not at the last meeting, the last meeting of this Council was the proper time to have raised them. The Committee would have been exceeding its reference if it had gone into any other question, excepting into granting exemption to graduates and no others. I accept on behalf of the Committee the amendment of Sir John M'Fadyean.

Prof. SHARE-JONES: I move that the Committee be empowered also to consider—they need not recommend if they do not care to make the necessary investigation—the advisability of exempting students who have passed any one of the Universities of the British Isles in the subjects of the intermediate.

The PRESIDENT: I am afraid that is out of order.

Prof. SHARE-JONES: That will come as an additional proposition, otherwise I shall have to vote against this proposition.

The SECRETARY: The resolution as suggested by Sir John M'Fadyean is: "That the report be referred back to the Committee with instructions that they will so amend it as to give exemption to those graduates in Arts who have passed in the subjects of biology and chemistry."

The resolution was then put and carried.

Prof. SHARE-JONES: I should also like to move that the Committee shall consider the advisability of exempting students who have passed the intermediate examination in science in those subjects at any recognised University in the British Isles. I move that now because it will relieve me from future attacks, such as the one I have already had from Mr. Garnett this afternoon, if I care to enter into the matter at our

next meeting. I may say it is an accepted principle that I am asking this Council to adopt. I can name a student connected with myself who passed the intermediate examination in law at the University of London. The student comes to our University; he is not asked to pass the intermediate examination in law again; he is permitted to pass on to the final examination for the degree. It is a matter of economy of time. With reference to the report which Mr. Garnett referred to, you practically ask the student to put in seven years to qualify. Is it not sufficient for a student to pass on to the intermediate in those subjects? Anyway, this is a matter which will come up for discussion, if my proposition is seconded, at our next meeting. I beg to move that the Committee take into consideration the question of exempting students who have passed the intermediate examination in science in those subjects.

Mr. SUMNER: I second that resolution.

Mr. GARNETT: I should like to speak against that proposition. I really think it is one that we should not accept. As far as my recollection goes, the decision of the Special Committee which sat and reported on this subject was to ask us to exempt persons holding certain degrees. I entirely agree with what Prof. Mettam said in regard to it, that we should not throw ourselves open to any man who just passes part of a degree course. It is throwing the portals open far too wide. We are extending them now very much wider than they have ever been before, when these things get properly carried out. Besides, as I pointed out at the last meeting of Council, they accepted the principle that we should not go further than to exempt persons holding certain degrees, and it is going back altogether on what we have already passed.

Sir JOHN M'FADYEAN: May I be allowed to point out that there is a very material difference between getting exemption for those who have passed the examination in biology and chemistry and then proceeding to the full degree, and giving exemption to those who, having entered for a particular degree and passed in biology and chemistry, abandon the pursuit of the degree. I am prepared to maintain that the student who has spent his first year in studying medicine or science and passes those subjects, and then comes to us under this exemption, if we extended it to him, and passes only three years in studying veterinary medicine at a Veterinary College, is probably at the end not so good a man as a man who has spent four years at a Veterinary College. But I think we should probably all be ready to admit that it would be desirable to entice into this profession those who have already taken a degree in Arts or in science, and it is on that ground that we offer that exemption to them.

Prof. SHARE-JONES: (Cries of "Vote, vote.") I have a perfect right to reply according to the ordinary rules of discussion. All my proposition means is that we are simply asking them to consider it.

Prof. SHARE-JONES' proposition: "That the Committee be instructed to take into consideration the question of exempting students who have passed the intermediate examination in science" was then put and lost.

PRELIMINARY EXAMINATION COMMITTEE.

Principal McCALL read the following report of a meeting of the Preliminary Examination Committee held on Wednesday, June 4th, 1913:—

Preliminary Educational Examinations. The Secretary submitted a memorandum showing the effect of the resolutions of the General Medical Council with regard to Preliminary Educational Examinations, and also giving statistics as to the number of veterinary students taking the respective examinations.

After consideration it was resolved to adjourn the meeting until July.

Principal McCALL also read the following report of a meeting of the Committee held on July 3rd, 1913 :—

Preliminary Examination. The Secretary submitted the new regulations of the General Medical Council with regard to preliminary medical examinations, which provide for the general raising of the standard of marking, while permitting the examination to be taken at not more than two sittings. It was resolved to recommend :—

(a) That candidates presenting themselves for the first professional examination in and after December 1915, be required to produce a certificate of having passed one of the preliminary educational examinations in accordance with the revised regulations of the General Medical Council.

(b) That Schedule 1 be revised in accordance with the above recommendation.

(c) That the following examining bodies be requested to continue to examine veterinary students on the standard at present recognised, up to and including the examination to be held in September, 1914 :

The College of Preceptors : Preliminary examination for medical students.

Educational Institute of Scotland : Preliminary medical examination.

Intermediate Educational Board of Ireland : Middle grade examination.

On the motion of Principal McCALL, seconded by Mr. McKINNA, the reports were adopted.

LIBRARY AND MUSEUM COMMITTEE.

The PRESIDENT read the following report of a meeting of the Library and Museum Committee held on Friday, July 4th, 1913 :—

Presentations to Library. It was resolved to recommend "That in future the list of presentations to the library be submitted in the first instance to the Library and Museum Committee.

Purchase of Periodicals. It was resolved that the Bulletin of Tropical Medicine and the Tropical Veterinary Bulletin be obtained for the use of the library at a cost of one and a half guineas per annum.

The question of the purchase of other periodicals to complete the collections in the library was considered, but it was found impossible on financial considerations to make any recommendation.

Use of Library. It was resolved "That under existing circumstances no books be allowed to leave the library, but that the library be open for reference to Members, and also to non-members on presentation of a letter of introduction from a Member.

Catalogue. The necessity for the preparation of a card index catalogue was discussed, but on financial grounds the matter was not proceeded with.

The PRESIDENT : I move the adoption of the report.

Mr. MULVEY : I second that.

Mr. McKINNA : It is a pity that the books are not to be loaned. I should like to know the reason which prompted the Committee to bring in such a resolution as this.

Prof. METTAM : Until the funds of the College permit it, the library can be only considered a reference library and not a circulating library. If it was to be run as a circulating library it would mean an additional expense, which we cannot at present afford.

Mr. McKINNA : I think it is a pity that a library of the character that we have at this College should not be available as a circulating library, at least to Members of the Council.

Mr. MULVEY : The Members of the Council have no right to any privilege that the ordinary Members of the College do not possess.

Mr. McKINNA : I mean in the wider sense. I do not see why, unless the Committee brings in some serious

reason for it, at this stage of the day, they should all at once make this proposition.

Sir JOHN M'FADYEAN : I will suggest a reason which you may find sufficient, and that is that if the library is to be made a circulating library, it would require the services of a librarian. The mere undertaking personally to return the books is not enough. The issue and return of books must be controlled. We should have to appoint a librarian to do that, and we cannot afford it.

The motion for the adoption of the report was then put and carried.

FELLOWSHIP DEGREE COMMITTEE.

Prof. METTAM read the following report of a meeting of the Fellowship Degree Committee held on July 4th, 1913 :—

Revision of the Fellowship Regulations. It was resolved to recommend : That in order to enable existing members to sit for the Fellowship Examination under the present regulations, the said regulations be continued in force for five years after the introduction of the suggested new regulations.

That new Regulations be instituted forthwith as follows :—

Qualification Period. Two years after Membership. *Thesis.* A Thesis to be submitted on the results of original research or observation, on one of the following subjects : Anatomy, including Surgical Anatomy ; Physiology ; Pathology, including Bacteriology and Protozoology ; Helminthology and Entomology ; Pharmacology and Toxicology ; Medicine ; Tropical Medicine ; Surgery ; Sanitary Science and Administration (open only to holders of the Diploma in Veterinary State Medicine).

Examination. The Candidate shall be examined orally on the subject matter of his thesis, and may, at the discretion of the Examiners, be examined practically or by written papers in that branch of Veterinary Science to which the subject of the thesis belongs.

The subject or subjects of examination to be shown on Diploma.

Regulations for New Diploma. It was resolved to recommend that the following regulations be instituted :—

Title. Diploma in Veterinary State Medicine.

Qualification Period. Twelve months after membership, including at least : Six months' practical instruction in Meat Inspection, Hygiene of Byres, Stables and Markets under Veterinary Inspectors or Teachers recognised for that purpose by the Royal College of Veterinary Surgeons ; A further period of six months' attendance at approved courses of instruction on the following subjects at an affiliated School : Epizootiology, Veterinary Hygiene and Toxicology, Veterinary Bacteriology and Protozoology, Chemistry as applied to Veterinary Hygiene.

Examination. Written and Oral : Epizootiology ; Veterinary Hygiene, including Meat and Dairy Inspection, Sanitary Laws, Administration and Reporting, and Toxicology ; Veterinary Bacteriology and Protozoology.

Supplementary Charter. It was resolved to recommend that the following powers be sought in a new Supplementary Charter : To reduce the period between Membership and Fellowship Examinations, To institute a new Diploma in Veterinary State Medicine, To approve Teachers, appoint Examiners, and make bye-laws, To hold the Annual General Meeting on any of the first seven days in the month of June.

That the preparation of the new Supplementary Charter be referred to the Parliamentary Committee.

That in view of the urgency of the matter, it is undesirable that any subject of a contentious nature should be introduced into the draft Charter.

Prof. METTAM : I propose that the Report be adopted.
Sir JOHN M'FADYEAN : I second that.

Mr. SUMNER : As a further instruction to the Fellowship Committee, Mr. Trigger, who has unfortunately had to leave the meeting, left a suggestion that we should move an instruction to the Charter Committee to put a Clause in to the effect that there shall be two Vice-presidents instead of six. Last year one member who had been on the Council only two years was appointed a Vice-president, and he is reappointed this year ; and one gentleman to-day who has only been on the Council one year declined the offer of the position. Mr. Trigger is of opinion that six Vice-presidents are certainly more than are required, and that if the office was confined to two it would confer a greater honour than it does now with six. On Mr. Trigger's behalf I suggest that an instruction be made to the Charter Committee that the number of Vice-presidents of the College be reduced from six to two.

Mr. CLARKSON : I should like to second that instruction. I think if we have only two Vice-presidents, it will be something more of an honourable position than it is at present with six, and when we practically hawk the post about.

Mr. SUMNER : I do not think it is likely to be a contentious matter.

The motion for the adoption of the Report, together with Mr. Sumner's suggestion, was then put and carried unanimously.

EXAMINATION SYLLABUS COMMITTEE.

Dr. BRADLEY presented the following report and recommendations of the Examination Syllabus Committee :

THE SECOND SCHEDULE.

Syllabus of Subjects for Professional Examinations.

Examination A.

(1) ANATOMY OF DOMESTICATED ANIMALS.

Bones, Ligaments, and Joints of the Horse, Dog, Ox, Sheep, and Pig. The student will also be expected to possess a general knowledge of the skeleton of the Cat and Fowl.

(2) CHEMISTRY AND ELEMENTARY PHYSICS.

Elementary Physics.—Mass, Weight, Diffusion of liquids and gases, the Air-pump, the Barometer, Boyle's Law, the Principles of Archimedes, Special gravity of liquids and gases, Thermometers, Expansion of gases and liquids by heat, Charles' law, Avogadro's hypothesis, Convection, Winds, Ventilation, Conduction of heat through solids, Ebullition, Evaporation, Dew point, Specific and latent heat, Radiation, Metric system, Elementary facts regarding magnetism and electricity, Dispersion of light by a prism.

Chemistry.—Experimental study of chemistry of air and water, Laws of chemical combination, Equivalents, Combining weights, Symbols, Formulæ, Equations, the Atomic theory, Vapour density, Molecular weights. Chemical study of Oxygen, Ozone, Hydrogen peroxide, Chlorine, Hydrochloric acid, Chloride of lime, Hypochlorites, Chlorates, Bromine, Hydrobromic acid, Iodine, Hydriodic acid, Nitrogen, Nitrous oxide, Nitric oxide, Nitric peroxide, Nitrous acid, Nitric acid, Ammonia, Carbon and its oxides, Sulphur and its oxides, Sulphurous and sulphuric acids, Sulphuretted hydrogen, Phosphorus—its oxides and chlorides, Phosphorous and phosphoric acids, Phosphoretted hydrogen. Silicon, Silica, Silicic acid, Boron, Boric acid, Arsenic—its oxides and chlorides, Arsenious and arsenic acids, Arseniuretted hydrogen, Radium. Study of the following metals and of their more important combinations : Potassium, Sodium, Magnesium, Calcium, Zinc, Iron, Manganese, Aluminum, Chrom-

ium, Antimony, Lead, Copper, Bismuth, Mercury, Silver. Determination of the Hydrogen, Carbon, and Nitrogen in organic bodies. Study of the paraffins : Ethylene, Acetylene, Benzene, Nitro-benzene, Phenol and its more important derivatives. Structure of flame: Coal gas. Methyl and Ethyl Alcohols : Chloroform, Chloral, Iodoform, Glycerine, Ethereal salts, Formic and Acetic aldehydes, Ethylic oxide, Formic, acetic, tartaric, oxalic, lactic, citric, benzoic, and salicylic acids. Cyanogen, Hydrocyanic acid, Urea, Uric acid, Cane sugar, Grape sugar, Milk sugar, Starch, Dextrin, Glycogen, Cellulose. Albumen, Casein, Gelatine. Fats : Saponification, Glycerine. Morphine, Quinine, Strychnine. Fermentation : Alcoholic, acetic and lactic.

Practical Examination.

Candidates may be asked to identify any of the inorganic, basic, or acid radicles in the above list, and of the following organic compounds : Starch, Sugar, Albumen.

(3) BIOLOGY.

Biology. General Principles of Biology.

Botany. (i) *The Vegetative Organs of a Flowering Plant.*—Root, Stem, Leaf. The Morphology and modifications of roots and stems. Buds and branching. Different kinds of leaves. Modifications of foliage leaves. The Histology* of root, stem and leaf. Formation of lateral members. Growth in thickness of root and stem.

(ii) *The Plant Cell.** Protoplasm and other cell contents. The cell wall and its modifications. Cell division. Tissues and tissue systems.

(iii) *The Inflorescence and the Flower.* Definite and indefinite inflorescences. Parts of a flower. The structure and development of the ovule.

(iv) *Fertilisation and the Fruit.* Pollination and Fertilisation. Different kinds of fruits. The seed and its germination. Dispersal of seeds and fruits.

(v) *Plant Functions.* The composition of plants. Essential food substances. Water cultures. Gaseous and liquid absorption. Movement of water in plants and transpiration. Photosynthesis. The absorption of nitrogen. Destructive metabolism and respiration. Conditions for growth. Simple movements in plants. Exceptional modes of nutrition.

(vi) *The Principles of Classification.* Monocotyledons. Dicotyledons. Characters of the following families : Gramineæ, Liliaceæ, Ranunculaceæ, Papaveraceæ, Cruciferae, Rosaceæ, Leguminosæ, Umbelliferae, Labiatae, Solanaceæ, Scrophulariaceæ, Compositæ.

Elementary facts regarding ferns, algae, and fungi.

Zoology. (i) *Protozoa* : General features. Amœba. Trypanosoma. Pyroplasma, and Coccidium.

(ii) *Cœlenterata* : Hydra.

(iii) *Annelida* : Lumbricus and Hirudinea.

(iii) *Nematoda, Platyhelminthes* : Chief characteristics of Ascaris, Distomum hepaticum, Tania solium, T. echinococcus.

(v) *Arthropoda* : Main characteristics of the phylum, and distinguishing features of its sub-divisions: Crustacea, Myriapoda, Insecta, Arachnida.

(vi) *Vertebrata* : Main morphological features. Characters of the classes, Pisces, Amphibia, Reptilia, Aves, Mammalia. Distinguishing features of the orders of Mammals. Sub-divisions of the Orders Carnivora and Ungulata.

In the Oral part of the examination, candidates will be expected to be able to identify and classify examples of the types dealt with in the syllabus.

* Including only such of the microscopic structure of plants as is necessary for the understanding of their function.

Examination B.**(1) ANATOMY OF THE DOMESTICATED ANIMALS.***

Candidates will be required to show a knowledge of the entire anatomy of the horse. In the case of the other domesticated animals the examination will extend to the viscera, and to the salient features of the muscular, vascular, and nervous systems compared with the corresponding parts of the horse.

(2) HISTOLOGY AND PHYSIOLOGY.

Histology of the Domesticated Animals, including simple histological methods.

Physiology of the Domesticated Animals.

Candidates will be expected to be familiar with the characteristic chemical relations of albumen and sugar, and with the elementary chemical examination of milk, bile, and urine.

(3) STABLE MANAGEMENT, AND MANIPULATION OF DOMESTICATED ANIMALS. PRINCIPLES OF SHOEING HEALTHY ANIMALS.

Approaching animals : Securing animals in stables : Handling animals : Handling special parts—head, foot, tail, etc. : Use of twitches, muzzles, rings : Grooming—tools and implements : Clothing—Bandaging : Clipping—Singeing : Halters—Pillar-reins : Adjusting saddles, bridles, collars, etc. : Principles of shoeing sound feet.

Examination C.**(1) PATHOLOGY, BACTERIOLOGY, AND PROTOZOLOGY.**

General Pathology : Special Pathology : General Bacteriology and Protozoology : Special Bacteriology and Protozoology of the diseases of the domesticated animals : Immunity.

(2) MATERIA MEDICA AND TOXICOLOGY.

Forms in which medicines are used. Methods of administration or application. Actions, uses and doses of medicines. Classification of medicines. Special and synthetic preparations, their actions, doses, and derivation. Incompatibles. Impurities. Serum Therapy. Poisons, organic and inorganic. Symptoms and post-mortem appearances of poisoning. Antidotes, chemical and physiological. Tests. Writing and reading prescriptions.

There will be a practical examination in Pharmacy.

(3) VETERINARY HYGIENE AND DIETETICS.

Water—quality, quantity, impurities, tests. Air—quality, quantity, impurities. Site, Construction, Ventilation, Heating, Drainage. Fittings of : Stables, Cowsheds, Kennels, Pigsties, Sheep-pens. Disposal of excreta. Foods—grasses, cereals, roots, etc. Feeding—principles, quantities, varieties of foods, nutritive values, preparation and mixing food. Dipping and spraying animals. Preparations employed. Breeding and Heredity. Hygiene of Gestation and Milk Production. Dairies, Cowsheds, and Milkshops, Orders and Regulations. Recognition of defects in buildings. Recognition of defects in food stuffs. Transport of animals. Disposal of carcasses. Disinfection and disinfectants.

Examination D.

(1) Principles and Practice of Veterinary Medicine, and Meat Inspection.

(2) Principles and Practice of Veterinary Surgery and Obstetrics (including Examinations as to Soundness).

ALTERATIONS TO BYE-LAWS.

The Committee also recommended that the following consequential alterations should be made in the bye-laws :—

* *i.e.* Horse, Dog, Ox, Sheep, Pig, Cat, and Fowl.

Bye-law 53 (New number 62) : Add the words "healthy animals" after "principles of shoeing."

Bye-law 54 (New number 63) : In section (a) line 2, add the words "and protozoology" after the word "bacteriology." In section (b) line 3, add the words "and protozoology" after the word "bacteriology." In section (c) delete the word "Therapeutics."

Bye-law 67 (New number 76) : In examination B, subject 3, add the words "healthy animals," after "Principles of Shoeing." In examination C, subject 1, replace the words "Morbidity, pathology, bacteriology," by the words "Pathology, bacteriology and protozoology." Subject 2, delete the words "Practical pharmacy, therapeutics," and add, in the line 2, after "minutes," the words "including a practical examination in pharmacy."

On the motion of Dr. Bradley, seconded by Mr. Sumner, the report was adopted.

ELECTION OF AUDITORS.

On the motion of Mr. McKinna, seconded by Mr. Slecock, Messrs. Woodhouse and Wilkinson were re-appointed auditors for the following year.

DATES OF COUNCIL MEETINGS AND EXAMINATIONS.

The following dates for Committee and Council meetings and examinations were unanimously agreed to :—

DATES OF COMMITTEE AND COUNCIL MEETINGS.

1913 : October 9th and 10th. 1914 : January 8th and 9th ; April 2nd and 3rd (Good Friday, April 10th) ; Annual General Meeting, June 3rd ; July 2nd and 3rd.

DATES OF EXAMINATIONS.

1913 : Written, December 8th ; Orals, December 9th, Dublin ; Glasgow, Edinburgh, Liverpool, London. 1914 : Written, July 6th ; Orals, July 7th, London, Edinburgh, Glasgow, Liverpool, Dublin.

Fellowship Examination.—December 6th, 1913 ; May 16th, 1914.

Walley Memorial Examination.—October 4th, 1913.

APPOINTMENT OF COMMITTEES FOR THE YEAR.

The following Committees were appointed :—

Registration Committee.—The whole Council.

Examination Committee.—Messrs. O. C. Bradley, J. Dunstan, F. T. G. Hobday, J. S. Lloyd, J. McCall, J. McL. McCall, A. E. Mettam, Sir J. M'Fadyean, J. McKinna, W. J. Mulvey, J. T. Share-Jones, E. S. Shave, W. Shipley, S. H. Slecock, Sir S. Stockman, H. Sumner.

Finance Committee.—Messrs. J. Abson, O. C. Bradley, J. Clarkson, F. W. Garnett, A. Lawson, J. S. Lloyd, J. McKinna, A. W. Mason, W. J. Mulvey, A. E. Mettam, W. Packman, W. Shipley, H. Sumner, R. C. Trigger, S. Wharam.

Parliamentary and General Purposes Committee.—Messrs. J. Abson, W. F. Barrett, O. C. Bradley, W. Burt, J. Clarkson, F. W. Garnett, A. Lawson, Sir J. M'Fadyean, A. W. Mason, A. E. Mettam, W. J. Mulvey, T. S. Price, J. T. Share-Jones, Sir S. Stockman, H. Sumner, H. Thomson.

Annual Fee Committee.—Messrs. W. F. Barrett, O. C. Bradley, F. W. Garnett, J. McCall, Sir J. M'Fadyean, A. W. Mason, A. E. Mettam, W. J. Mulvey, W. Packman, H. Sumner, H. Thomson, R. C. Trigger.

Library and Museum Committee.—Messrs. J. Abson, G. A. Banham, O. C. Bradley, W. Burt, J. Dunstan, F. T. G. Hobday, Sir John M'Fadyean, W. J. Mulvey, J. McKinna, A. E. Mettam, J. S. Lloyd, J. T. Share-Jones, E. S. Shave, S. H. Slecock, S. Wharam.

Publication Committee.—Messrs. J. Abson, W. Burt, J. McCall, J. McL. McCall, Sir J. M'Fadyean, W. J. Mulvey, T. S. Price, R. Pringle, A. E. Mettam, W.

Packman, J. T. Share-Jones, Sir S. Stockman, S. Wharam.

Steel Memorial Committee.—Messrs. J. Abson, G. A. Banham, O. C. Bradley, J. McCall, Sir J. M'Fadyean, A. E. Mettam, W. J. Mulvey, H. Sumner, R. C. Trigger.

Honorary Associates Committee.—Messrs. G. A. Banham, O. C. Bradley, A. Lawson, J. McCall, A. E. Mettam, Sir J. M'Fadyean, R. Pringle, Sir S. Stockman.

The President is *ex-officio* member of all Committees.

NOTICES OF MOTION.

Prof. METTAM: I beg to give notice of suspension of the second Schedule, syllabus of subjects for professional examinations. I give notice that I will move that these be adopted as the bye-laws at the next meeting of Council.

I also beg to give notice that I shall move the alterations with reference to the proposed changes in the Fellowship examinations and the regulations for the new diploma. Also the following resolution:—"That candidates presenting themselves for the first professional examination in and after December, 1915, be required to produce a certificate of having passed one of the preliminary educational examinations in accordance with the revised regulations of the General Medical Council."

Sir JOHN M'FADYEAN: I do not know that this is the time to offer any objection to this proposed alteration of bye-laws, but I may say now that when it comes up I shall feel obliged to oppose that because the language is not precise enough. What are "the revised regulations of the General Medical Council?" We must remember that before 1915 the General Medical Council may revise its bye-laws half-a-dozen times, and I think some other phraseology will have to be found to give effect to what we have in view. I object as a matter of principle to putting in our bye-laws that we are bound by the bye-laws of any other body. I think we must preserve the present form of our bye-laws, that is to say we will accept certificates specified in the Schedule annexed to the bye-laws. There is plenty of time to effect the alteration.

Prof. METTAM: The notice I give is simply on behalf of Principal McCall, and I want you to take the tenor of what I say rather than the actual words. The phraseology will be altered to suit the exigencies of the case. Any alteration can be made in October when it will come up for discussion.

This concluded the business of the Council, and a hearty vote of thanks having been accorded to the President for presiding, the meeting terminated.

EXAMINATIONS IN LONDON.

At the meeting of the Board of Examiners held in London on July 7th for the Written, and on July 8th for the Oral and Practical Examinations, the following gentlemen passed their Third Examination:—

Mr. C. O. A. Anderton	Mr. G. H. Melck *
R. M. Bamford	W. B. Pershouse
S. R. Beaumont *	R. J. Stow
H. H. Curson *	R. H. Stalker
H. S. Cockburn	F. H. Stainton
E. E. Jelbart	J. F. D. Tutt *
R. H. C. Lucas	C. H. S. Townsend
A. G. E. Lalor	W. H. Wortley *

The following passed their Second Examination:

Mr. F. J. Andrews	Mr. H. C. Rockett
T. J. Bosworth	W. Shipley
F. Canilla	P. R. Turner
H. V. M. Métivier *	T. L. Wright *
W. R. McKinna *	G. S. Walker
G. E. Oxspring *	E. Wallace
R. H. Penhale *	J. H. M. White

The following passed their First Examination:—

Mr. G. Barnett *	Mr. L. Hughes
S. C. J. Bennett *	C. W. Heane *
J. C. Coleman	F. L. Haydon *
C. K. Calder	R. B. Nelder
R. Catmur *	L. E. Pritchard †
A. Carter *	C. J. Peach *
I. R. R. Coleman	S. R. Rippon *
W. A. Dickinson *	G. C. Taylor
H. J. Edwards	G. F. Watkins

Marked thus † passed with First Class Honours.

" * " Second " "

YORKSHIRE AND NORTH MIDLAND VETERINARY ASSOCIATIONS.

Attention is called in our advertising columns to a combined summer meeting on July 18th. The members and ladies will meet at the Town Hall, Sheffield, at 11.30 a.m., and an official welcome will be accorded to them by the Lord Mayor of Sheffield, Alderman S. Osborne, J.P.

After short business meetings of the respective Societies, Professor O. C. Bradley, M.D., D.Sc., M.R.C.V.S., will deliver an address on "The Present-day Veterinary Surgeon and his Successor."

Following the meeting, those present will be entertained to luncheon at the Grand Hotel, by the Presidents of the above Societies, Messrs. Joseph Abson, F.R.C.V.S., Sheffield, and F. L. Somerset, F.R.C.V.S., Chesterfield.

After luncheon, the party will be taken by motor charabancs to Buxton, where tea will be served at the Empire Hotel. *En route*, the beautiful district of the Peak will be traversed via Taddington on the outward journey and Tideswell and Bamford on the return, arriving in Sheffield in time for visitors to catch the 8.24 p.m. train for Leeds and other parts of Yorkshire.

The cost of the drive and tea will be 8/- per head, and intending visitors are requested to apply without delay to the Hon. Secretaries, Mr. J. Clarkson, Garforth, near Leeds, and Mr. J. S. Lloyd, Town Hall, Sheffield.

Swine Fever in Holland—Treatment.

In a communication to *The Meat Trades Journal*, Mr. John M. Harris, of C. and T. Harris and Co., Ltd., Wiltshire Bacon Curers' Association of Great Britain and Ireland, who has recently returned from Holland, says:—

"I visited several cattle markets and found a large number of pigs of every sort and description being exposed for sale, from the age of six weeks and upwards. In the market of Sneek there were estimated to be about 400 fat pigs and 1,000 stores. In the important town of Leeuwarden (about 30 miles from Sneek) there were computed to be 800 to 900 fat pigs and 500 stores. All these pigs were sent to these weekly markets *without any restrictions whatever*. The farmers take little notice of swine fever. When an outbreak does occur, all they have to do is to call in the veterinary surgeon appointed by the State for that district. He immediately injects a serum provided by the State into the pigs

already under the influence of the disease as well as the others on the farm."

"I last of all visited the Ryks Serum Institution at Rotterdam, which is maintained by the Dutch Government for the sole purpose of combating animal diseases. It is managed by a director (Dr. Poels) and a staff of competent veterinary surgeons, clerks, etc., and here are often kept (either at the institution or at the farm) as many as 100 horses, 50 to 100 cattle, and about 100 pigs, besides sheep, goats, fowls, etc. These animals are used for experimental purposes and the production of the various vaccines and serums, of which large and various quantities are required, as the number of inoculations runs to 400,000 to 500,000 a year. I was fortunate in finding the director (Dr. Poels) at liberty, and he was good enough to put the whole morning at my disposal. After giving me full information as to the way the serum for swine fever is produced, and showing me the animals in the various stages of the disease, as well as some that were then under operation, I addressed to him a series of questions, to which I append his answers in brief:—

1.—Is the serum treatment effective?—Out of the 4,000 injections, which were made after the pigs had the fever on them, or were in immediate contact, hardly one died.

2.—What is the cost of treatment per pig?—The serum is supplied free to the Government appointed veterinary surgeons, who charge the farmers sixpence per hog for the injection, including the serum.

3.—How long has the serum treatment been applied by the Dutch Government?—Between two and three years. Obtained the information from the Hungarian Government.

4.—How is the serum applied?—By making an injection in the neck behind the ear with a small syringe.

5.—How long does it remain effective?—If properly carried out the animals will be immune from fever for the rest of their lives.

6.—Are pigs infectious while under treatment?—Not after ten to fourteen days.

7.—What is the number of outbreaks reported in Holland?—No special reports made; but there are very few now.

8.—Do the Government make any Orders or regulations regarding swine fever?—No. Every farmer in order to prevent loss takes care to get his pigs inoculated immediately.

9.—Is it a punishable offence to remove or sell pigs while under the serum treatment?—No.

In further conversation with Dr. Poels, he informed me that a few years ago swine fever gave them great concern, but they had sent their veterinary surgeons to Hungary to inquire into the serum treatment there in vogue, the Hungarian Government having had an experience of 300,000 cases and with most beneficial results."

Commenting on the foregoing, *The M. T. J.* says:—"It is gratifying to be able to record that Sir Sydney Olivier, Permanent Secretary to the Board, has intimated that the President has given instructions for expert veterinary surgeons to proceed to Holland and Hungary in order to make personal investigations on the serum treatment, and also in regard to the procedure adopted in these countries in connection with outbreaks of swine fever."

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders † (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered.*
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
GR. BRITAIN.													
Week ended July 5	6		6				5	13	35	119		66	574
Corresponding week in	1912	11	11		33	179	3	3	32	59	1	62	726
	1911	15	18		3	67	4	9			1	68	568
	1910		24	29			11	24			2	47	559
Total for 27 weeks, 1913	323		248				91	257	1699	3498	121	1296	17611
Corresponding period in	1912	508	568		37	217	90	188	2132	4716	163	1859	23567
	1911	491	612		4	85	108	282			304	1400	15545
	1910		834	1010			189	525			317	778	7067

† Counties affected, animals attacked: Durham 2, Essex 1, London 9, Stafford 1.
Board of Agriculture and Fisheries, July 8, 1913.

IRELAND. Week ended June 28	...	...	...	...	...	...	...	Outbreaks	2	9	3	10
Corresponding Week in	1912	...	...	...	...	...	...	2	2	4	30	
	1911	...	...	...	...	...	...	1	2	10	63	
	1910	...	...	...	...	...	...	...	1	5	64	
Total for 26 weeks, 1913	...	...	...	...	...	...	...	92	319	85	503	
Corresponding period in	1912	2	2	...	...	...	...	45	257	137	1275	
	1911	5	6	...	...	...	2	3	44	242	63	974
	1910	4	7	...	...	...	1	2	36	333	57	1341

† These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, June 30, 1913

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

The Vivisection of Dogs.

AMENDMENT OF THE PROHIBITION BILL.

Standing Committee A of the House of Commons, presided over by Mr. E. Wason, the Dogs (Protection) Bill was considered on Wednesday, July 2.

Dr. CHAPPLE, who moved an amendment that the Bill should apply only to inoculation experiments, said: It would differentiate between the two great classes of experiments, operation experiments and those which were not of a surgical character. If it was carried, proper surgical experiments could still go on. If a man were told that by allowing an experiment to be made upon a dog he might save his wife's life, it would be a monstrous thing to refuse, but it would not be more inhuman than the action of those who were responsible for the Bill. What vivisection had done for dogs alone was incalculable. It had stamped out hydrophobia.

Mr. A. HERBERT: Do you claim that for vivisection? Dr. CHAPPLE: Certainly.

Mr. A. HERBERT: What about the Muzzling Order?

Dr. CHAPPLE said that when the muzzling of dogs was suggested, anti-vivisectionists had raised money to oppose it and had told Mr. Long that hydrophobia was lunacy in dogs and therefore could not be dealt with in that way.

Mr. G. GREENWOOD: I entirely deny that. Some people may have done so, but not many.

Dr. CHAPPLE said that action had been so foolish that he accepted the hon. member's statement that he had had no part in it. He claimed also that through vivisection they had been able to discover how to cure many idiot children. With regard to cancer also they had been able to make discoveries through vivisection.

Sir F. BANBURY said he could not accept the amendment. He could not believe that vivisection had led to the stamping-out of hydrophobia or that through it they could make idiot children sane. If it had been the case there would have been no need for the Mental Deficiency Bill.

Mr. LYNCH said that as during 1912 out of 80,000 experiments only 500 had been upon dogs, science would not suffer if experiments upon dogs were prohibited.

Mr. ELLIS GRIFFITHS, on behalf of the Government, said he did not think it was easy to draw a distinction between the value of inoculation and of surgical experiments. He had previously suggested a compromise, and he hoped that both sides would agree that the terms of the Act of 1876 should be extended to dogs.

Mr. G. GREENWOOD said they had been asked if a man would not allow experiments to be made on dogs if that would save his wife or children. In such a case he would probably vivisection the hon. member for Stirlingshire himself (Laughter), but that would not make vivisection morally right. Sir Frederick Treves had stated that in some cases experiments upon dogs were prejudicial to medical work.

Sir H. CRAIK pointed out that Sir Frederick Treves in a letter to *The Times* had stated that he had only referred to one particular form of experiment upon dogs.

Dr. CHAPPLE said that in the same letter Sir Frederick Treves had pointed out that his statement had been taken deliberately from its context in order to misrepresent his views.

Sir JAMES LARMOR said the promoters of the Bill would do far better to direct their attention to the methods employed in the slaughter of animals.

Mr. G. GREENWOOD: We are doing so.

The amendment was carried by 12 votes to 9, and the Committee adjourned.

The Traffic in Old Horses.

GERMAN FINED £12 AT HULL.

A German horse dealer named Adolf Stones was charged before the Hull Stipendiary on Friday, 30th ult., with cruelty to three horses by walking them through the streets in Hull while in a diseased condition. The offence was committed in February of last year, when Captain Clark, of the steamer *Norwood* was summoned for bringing the animals from Aberdeen. The summons was dismissed, and a warrant was granted for the apprehension of Stones, who was the man to whom the horses were consigned by an Aberdeen dealer. Stones was apprehended at Lincoln on the 1st of May. Mr. Payne prosecuted, and Mr. Williamson defended.

Lieut.-Col. Longhurst, veterinary surgeon, described the condition of the animals. A mare, 20 years old, was suffering from a badly sprained hock, a gelding was afflicted with injury to spine and its legs were "worn out," and the third had fevered feet, the bones of which were nearly protruding.

Police Constable Bell said he saw the horses being led in from the steamer in the Princes Dock to a stable in Osborne Street, a distance of about a quarter of a mile. They were ordered to be destroyed the same day.

Defendant went into the witness box, and told the Court that he had no idea that the horses were so bad until he got them in the stable. They walked badly, but he attributed that to their having been cramped on board the *Norwood* for two nights and one day. Asked why he sold up and cleared out of the country when the warrant was issued, defendant said he was frightened by people telling him he would have to "do time."

Cross-examined by Mr. Payne, defendant said he gave £32 for the three horses. He was going to take them to his stable and dress their legs and make them a good bed for two or three nights. After this treatment they would look better and younger. Then he was going to send them to Rotterdam to be slaughtered.

Slaughtered for sausages?—Yes.

The Stipendiary: He says "Yes"; apparently he knew all about it.

Mr. Payne: What do the Rotterdam people pay for them?—We have got up to £15 and £20.

Mr. Payne: According to your story it would pay to breed horses to send abroad for sausages?

The Stipendiary: These men will fight very hard to get the horses exported alive, instead of having to send them to the "knackers" yard.

Mr. Payne: Should you not carefully examine a horse before bringing it from the ship?—I always do. On this occasion there was no chance on board, and there was room on the quay.

Why did you run away?—I was frightened by other people. I have been fined a few times, and they told me I should go to prison.

But you say you are an innocent man?—Yes.

The Stipendiary: You had better go back to Germany if you think this is a dreadful country where innocent people are sent to prison. Continuing, His Worship said the past offences were not serious.

Sergeant Pearcey, inspector of old horses under the Hull City Corporation, said he had known the prisoner for nine years, and had had a good deal of trouble with him. On two occasions, when horses had had to be shot, he had during the absence of the inspectors taken them away to be resold. This happened two years ago.

The Stipendiary said this case, so far as the condition of the animals was concerned, was the worst he had

ever heard. He remembered making the order for their destruction, and he might say that he never saw such horses, and he hoped he never would see such horses again. Anybody who saw them walk a yard must have been convinced that they were not fit to travel. He imposed fines amounting to £12, with the alternative of three months' imprisonment, and he refused to allow the prisoner any time to pay.—*Hull News*.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, July 4.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Lieut. R. F. Watson resigns his commission. Dated July 5.

July 8.

REGULAR FORCES. ARMY VETERINARY CORPS.

Lieut. R. F. Stirling resigns his commission. Dated July 9.

SPECIAL RESERVE OF OFFICERS.
ARMY VETERINARY CORPS.

R. Moore to be Lieut. (on probation). Dated July 9.

DIRECTOR-GENERAL A.V.S.

We hear that the Army Council have decided that the appointment of Director-General, Army Veterinary Service, will in future be four years, as in the case of other staff appointments. Up to the present, the appointment has been for three years, but the Army Council have had the power to specially extend it for a further period not exceeding two years.

The present holder of the post is Maj-General R. Pringle, C.B., D.S.O., A.V.S., who was appointed on Oct., 1910.

The Directorate is one of five in the Department of the Quartermaster-General to the Forces. Its entire War Office staff only includes half-a-dozen individuals. These are the Director-General, an Assistant Director-General, and four ex-military clerks. Their combined salaries amount to £2,395, of which sum the Director-General receives £1,200, and the Assistant Director-General £700.—*Military Mail*.

Personal.

GOLLEDGE—CULPIN.—On June 28th, at St. Paul's Church, Camden Square, by the Vicar, the Rev. G. Filey, assisted by the Rev. W. B. Tweddell, Mr. Hedley C. D. Golledge, M.R.C.V.S., Board of Agriculture, Ashford, Kent, son of Capt. and Mrs. C. Hedworth Golledge, Kingston House, Sherborne, Dorset, to Edith K. Culpin, only child of Mr. and Mrs. W. H. Culpin, 64 Camden Square, London, N.W.

Sir STEWART STOCKMAN has recently been incapacitated by a serious illness, from which he has not yet completely recovered. He was away from home when the nature of the malady—typhoid fever—first became apparent; and this necessitated a stay for some weeks in a hospital in the country. Happily he is now recovering, has left the hospital, and may fairly be called convalescent. All veterinary surgeons will join in wishing him a speedy restoration to complete health.

The many friends of Mr. T. Salusbury Price will be glad to hear that he is making good progress towards recovery from the severe accident which befell him last month.

OBITUARY.

JONATHAN RINGROSE, M.R.C.V.S., Weaverthorpe, Yorks.
Graduated, Edin: April, 1864.

Mr. Ringrose died from diabetes mellitus, embolism of pulmonary artery, and syncope, on July 2nd. Aged 69 years.

CORRESPONDENCE.

INSPECTORS' FEES.

Sir,

The sentiments expressed by Mr. H. Gray will be endorsed by all practitioners who place a proper value on their time and services. It is not the public who arrange a scale of fees in any district, but it is the practitioners who really appraise the value of professional services. Public bodies no doubt desire to get work done as cheaply as possible, but the remedy for insufficient remuneration lies in the hands of the veterinary surgeons themselves. Evidently with all our boasted advancement, we are not progressing so far as increased pay is concerned. Why are fees cut down to a starvation scale? Simply because men can be found who place very little value on their time and services, and by working for wretched fees they manage to exist somehow. But there are cases in which cheap work is done in order to attract clients from another practitioner; those who practise this plan do so for the sake of greed, knowing full well that the skill which they possess cannot accomplish the desired end.

But things have indeed come to a pretty pass when, if we sue either a public body or a private individual for proper remuneration, we may find a qualified man ready to testify that half the amount we are claiming would be just and proper.

If some of our members of Council, endowed with forensic abilities, would get a clause inserted in the new Bill to deal with cases of the above kind, we might then get some value for the registration fee.

I have experience of one instance in which a V.S., in order to get appointed to a certain horse-show, offered his services *gratis*, although I was for years getting £3 3s for doing the work!

No doubt cases of this kind are of too commercial a nature to merit deep consideration, and those who are never tired of describing the evils of quacks, can close their eyes to the mean contemptible acts of individuals licensed to add the mystic letters to their names.

We hear a lot about professional etiquette at meetings of veterinary societies and at the post-prandial orations that usually follow, but in actual practice it is generally regarded as "a counsel of perfection," and is "more honoured in the breach than in the observance."—Yours, etc.,
E. WALLIS HOARE.

SOUTH DURHAM AND NORTH YORKSHIRE V.M.A. A CORRECTION.

Dear Sir,

In the report of meeting last week on p. 10, in the scale of suggested new fees by the Durham County Council, fees for attendance at markets, sales, etc., should read:—

For examination of a single animal	...	10	6
.. further animals 1/- per head.	...		
up to a maximum of	...	£1	10 0

JAS. H. TAYLOR, Hon Sec.

Original articles and reports should be written on one side of the paper only and authenticated by the names and addresses of writers, not necessarily for publication.

Communications for the Editor to be addressed 20 Fulham Road, London, S.W.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1306.

JULY 19, 1913

Vol. XXVI.

THE "NATIONAL" MEETINGS.

The "National" meetings will commence in London ten days hence. Time, place, and programme have already been advertised; and all will agree upon the interest and variety of the subjects for discussion: the chief thing necessary for a successful re-union is a good attendance.

One or two other things are essential to ensure a smooth working. Those who intend to be present at the annual banquet should not fail to give notice of their intention in good time. And those who require information regarding hotels or other particulars from the Hon. Secretary to the Provisional Committee should communicate with him at once—he cannot be expected to answer many letters arriving at the last moment. By remembering these points, members can save endless trouble to the organisers.

THE INTERNATIONAL CONGRESS.

Those attending the "National" meetings may do good service by endeavouring to interest others in next year's great International Congress. The Congress Fund is making steady progress, but still needs support from all of us. In addition to the sum already subscribed and promised, about £400 is now required to bring the total to the absolute minimum necessary for success; but we ought to go well beyond the minimum. From the first it has seemed probable that the Congress might be a record one—its history since its inception has been one of steady numerical increase. And, as a matter of fact, information is now to hand from abroad which goes to indicate that the Congress will again break its own record as regards attendance. Obviously, the expense will rise with the attendance.

Those members who have already supported the Congress only amount to a very small proportion of the profession. The majority of members have not yet subscribed at all: and this fact, while it does not speak very well for our collective public spirit so far, shows clearly that all the money required can easily be raised if we choose. So large a proportion of it has already been raised by so few men that all that is necessary now is a comparatively small amount of support from the rest. It remains to men who have already subscribed to endeavour to induce others to do likewise.

THE ASSOCIATION OF VETERINARY INSPECTORS.

As announced on another page, this young and energetic Association is to hold a meeting at "The Holborn" on Monday 28th. It already numbers over 200 members and its membership is steadily increasing. A note in our correspondence page shows that its existence is justified.

DISLOCATION (?) OF THE NECK.

The patient, a half-bred Nellore heifer in good condition was brought into the Veterinary Hospital at Vizianagram in this Presidency, on the day I happened to be inspecting it.

History. The owner stated five weeks previously he found the heifer in the morning, with what he called a swelling on the right side of her neck, she having been left tied up during the night in a shed with other animals, in a perfectly sound condition. He described the swelling as being slightly painful and about the size of the palm of one's hand. An uneducated native of this country, however, is so inexact and unobservant, that it is difficult to place any reliance on his description.

As is done in most diseases of animals in this country, the owner fired the place, but, as stated by him, although he repeated this twice during the five weeks, it continued to enlarge and the head became more turned to the left.

Symptoms. In reality there was no swelling, except that which had been caused by the repeated firing, and the cervical vertebrae could be easily traced under the skin along the greater curvature, as seen in photo No. 1.

The funicular portion of the ligamentum nuchae was considerably shortened, hard, and tense, and displaced well to the left of the cervical vertebrae. It formed the upper margin of the deep depression in the middle of the neck shown in photo No. 2, and at first sight looked as if it were undeveloped and had been the primary cause of the curvature.

Diagnosis. Owing to the thickening caused by the repeated firing, and the length of time which had elapsed since the original accident, it was not possible to make out any displacement of the bones, but the only explanation that occurs to me is that on the night before the swelling was first noticed, the heifer had an accident, and dislocated some of the bones of her neck, giving the head a kink to one side.

The continued steady traction of the ligamentum nuchae whose action would now be exerted on one side only, would do the rest, and, as it became shorter, gradually pull the head round into the position seen in photo No. 1. To show how firmly fixed the head was in that position it may be noted that it was not possible to straighten the neck more than is being done by the attendant in photo No. 2.

Remarks. In England one would at once advise the owner to fatten and sell, for the heifer could feed well enough to make this possible. In this country, however, Hindus look upon the taking

of life with repulsion and, in fact, it is opposed to their creed. For this reason, and for the sake of the popularity of the hospital, one dared not attempt the heroic treatment of trying to reduce the curvature, for the most likely result of that appeared to be the breaking of the animal's neck.

I have to thank the assistant in charge of the hospital, Mr. Aiyasawmi Pillai for obtaining the photos.

Since writing the above I have come across a cutting from *The West Kirby News and Advertiser* in *The Veterinary Record* of 15th March, 1913, in which what seems to have been a similar case in a filly is described as having been successfully treated by Mr. Percival Carter. I should be very interested to hear his exact method of treatment.

F. WARE, I.C.V.D.,

Madras.

"MILK FEVER": SUGGESTION FOR PREVENTION.

By W. E. BLACKWELL, M.R.C.V.S., Towcester.

During the past five years I have seen many cases of this disease, and certain facts have impressed me so much that I record them in order to learn whether others have observed them, and noted their significance. What I want to say is with regard to prevention, which, as everybody knows, is better than cure, although it certainly does not bring much into the coffers of country practitioners.

Every case I attend I ask this question: "I suppose when this cow calved you milked her out?" and the answer I get is always Yes! When a cow is affected, I always get such a history of her case. The farmer follows the custom of his ancestors, and also the practice of the present time, and empties the udder, instead of allowing the calf to take a little out at a time, as would be the case in the natural way. The result is that the cow goes down with Milk Fever. Not, of course, in every case, or even in the majority of cases, but, in my experience, this procedure is always the antecedent in cows which develop the symptoms of the disease.

And what is the treatment which usually brings about such "magical" recoveries in the great majority of cases? It is this: that either by air, antiseptic fluid, or both, the udder is distended until it assumes the state it was in, before the cow was first milked out.

Whether the cause of Milk Fever is a toxin generated by anaerobic bacilli within the gland I do not know, but pressure on the veins to prevent further absorption of whatever the cause may be, seems to be the thing required—assuming that the cause enters the circulatory system in this way.

I have had two cases within the last few days, and both cows had been calved between 30 and 40 hours when I saw them. The first one was left absolutely alone according to my advice, the calf alone drawing the udder. This cow had a slight quivering of the muscles of the hind quarters, but she rapidly regained herself without any treatment whatever.

The second one had been milked four times, in addition to what the calf had got by sucking. Before the fourth milking she was staggering a little, but one hour afterwards she was much worse, and had some difficulty in maintaining the standing position. In order to test my theory I explained to the owner that he should leave her alone, put a muzzle on the calf and thus allow the udder to get distended again, and to keep her under close observation. Eighteen hours afterwards she was chewing the cud, and quite normal, having rapidly improved after my first visit.

I do not say it is right to do nothing at all in such cases, but it is better not to inject anything into the udder if one can bring about the same results by avoiding it. A client of mine who carries out this practice has not had one case since, although he has a herd of dairy cows numbering about 30. I myself shall lose considerably if I get only an odd case of Milk Fever now and again, but I am reporting this to the profession and not to the agricultural papers, although it may probably find its way there, and I shall never mourn because of that. Obviously this practice will not prevent those cases which sometimes occur three months or so after calving, or those cows from falling which are barren at the time of the attack. My suggestions then amount to this:—

Do not milk the cow for 48 hours after calving, but allow the calf to suck in the natural way. Then milk the cow night and morning and allow the calf to suck her for a week or 10 days, although that does not matter much if the 48 hours after calving are devoted to this method.

KERATOMA.

The accompanying photograph represents a good specimen of keratoma or horn-tumour of the horse's foot, showing the tumour in the lower part of the horny foot with corresponding gap in the pedal bone.

These growths are not very commonly met with. They are caused by pressure, and are found both in the front and hind feet, more particularly in the heavy breeds of horses. They are generally met with at the toes, but also form on the sides (chiefly in the front feet) where the clips of shoes are situated.

The foot shown in the photograph was the near fore of a heavy van gelding. The foot was first treated for canker of the sole and frog, and did well. Severe lameness followed with suppurative of the toe, and as the lameness did not improve and disease of the pedal bone was suspected, the horse was cast and the wall stripped over the diseased part.

The progress of the case for several months afterwards was somewhat slow, but the horse gradually improved from its lameness, and when once the wall had grown down it was likely to regain soundness sufficient for walking work. Unfortunately it was kicked by another horse, and had to be destroyed for open hock joint.

R. EAGLESHAM, M.R.C.V.S.

Paddington.

A PORTABLE BOX FOR TUBERCULOSIS INSPECTORS.

When the Tuberculosis Order came into being in May last, the Berks Inspectors were supplied with large, thick, heavy widemouthed jars with a capacity of about 40 oz.—somewhat resembling the ordinary stock surgery bottles—for the purpose of taking samples of milk from cows notified under the Order. These vessels were impracticable. Besides being cumbersome and difficult to take about in a car or trap without being broken, they were unsuitable for sterilisation, and when four had to be taken out to a case it became a matter requiring some ingenuity to pack them safely. The inconvenience and annoyance caused by one experience of these prompted me to devise the box shown in the illustration.



I called on Messrs. Baird and Tallock, 14, Cross Street, Hatton Garden, and gave them my ideas and suggestions, and they have succeeded in making quite a handy, portable little box, measuring 11 in. x 9 in. x 9 in., which is strong enough to take any ordinary rough usage. The lid is secured by a strong lock and hooks, and has a substantial leather strap provided for use as a handle. Inside, the box is divided into six partitions, which together with the lid are well padded with thick felt. The four larger spaces are for 10 oz. wide-mouthed stoppered jars or bottles for holding the samples of milk—quite large enough, I think, for all requirements; the two smaller divisions for smaller stoppered bottles—one to hold liquid soap for washing the udders, and the other for an antiseptic for sterilising the teats and udders after washing. I have found the box quite satisfactory and very useful, easy to carry about and stow away in trap or car, and can recommend it to my brother inspectors.

GEO. EDWD. KING.

The Vineyard, Abingdon.

ABSTRACTS FROM FOREIGN JOURNALS.

FILARIA PAPILLOSA IN MONGOLIAN HORSES.

Hellmuth reports (*Zeitschr. f. Vet.*) that he has repeatedly observed the appearance of *Filaria papillosa* in the eyes of Mongolian ponies in Eastern Asia. The natives of the region say that the worm generally appears after the rainy season, and often disappears spontaneously, but in most cases leads to destruction of the eye. Hellmuth describes the parasite as a round filamentous worm pointed at the end, about 1 3/5th inch long, and as thick as a knitting needle, which executes very lively twisting movements after the manner of an eel in the anterior chamber of the eye, and prejudices the vision of the horse by its turbid excretion. In one case, Hellmuth undertook the operative removal of the parasite; and the patient, an eight-year-old brown pony gelding, bore the operation well and made a complete recovery.—(*Berliner Tier. Woch.*)

ACCIDENTAL DIVISION OF THE TENDONS OF THE HIND LIMB IN THE OX.

P. Herbert records (*Journal de Méd. Vét. et de Zootechnie*) the case of a nine-year-old ox which, while harnessed to a mowing machine, had the cannon region of the left hind limb caught between two of the teeth of the machine, with the result that the tendons were completely severed.

The ox was immediately unharnessed, and was then only able to move with great difficulty. The foot of the injured limb was mobile from behind forwards; and weight was borne only upon the posterior part of the pastern, the foot being carried strongly forwards.

The animal was Herbert's own property, and he decided to attempt treatment. He lodged the ox in a neighbouring stable; and, by a preliminary dressing, he arrested hæmorrhage and disinfected the wound. Then, for some days, he carried out continuous irrigation of the wound with cold water, to which a little lysol was added. The ox got up of his own accord. Several times every day, remained standing for from fifteen to twenty minutes, and then lay down again—sometimes upon one side, and sometimes upon the other.

When the irrigations were discontinued, a dressing with iodoform was applied daily.

A month after the accident, the wound was cicatrised; and, though the lameness was still as intense as at the beginning, recovery was assured. The connective tissue which had formed between the ends of the tendons hardened imperceptibly, contracted, and brought the divided ends together, so that at the end of three months the ox resumed his daily work. The lameness had completely disappeared, and the foot had resumed its normal position.

This observation, which agrees with others previously made by the author, proves clearly that

recovery from accidents of this nature may be obtained without suturing the cut ends of the tendons.—(*Annales de Méd. Vét.*)

W. R. C.

[In considering the bearing of this case upon similar accidents in horse practice, it is perhaps advisable to remember that the ox only performs very slow work.—*Transl.*]

SOUTHERN COUNTIES VETERINARY SOCIETY.

The summer meeting was held on Thursday the 26th June at the George Hotel, Portsmouth, when the new President, Mr. G. H. Livesey, of Hove, took the chair and the other members who signed the attendance book included Messrs. A. H. Archer (Southsea), J. T. Angwin (Arundel), E. Whitley Baker (Wimborne), W. A. Della Gana (Southampton), W. W. Henderson (Haslemere), C. Pack (Lymington), W. E. Petty (Southsea), and J. Alex Todd (Worthing), Hon. Sec.

On the proposition of Mr. E. Whitley Baker, seconded by Mr. J. T. Angwin the minutes of the last meeting as published in *The Veterinary Record* were taken as read and confirmed.

Apologies and letters of regret at inability to attend were announced from Prof. Hobday, Messrs. R. Burt, W. Burt, Junr., W. A. Collins, W. Coveney, J. B. Dier, Henry Gray, C. W. Howard, H. H. Jeffries, J. B. Martin, A. Maynard, W. F. Maynard, J. C. Munby, S. H. Slocock, C. H. Spurgeon, H. Smith, P. J. Simpson, Theo. C. Toope, R. A. Thrall, A. Whicher, and F. T. Walder.

It transpired that the absence of Mr. Martin was due to an acute attack of influenza, and Mr. E. Whitley Baker suggested that as Mr. Martin was one of the oldest members as well and one of the founders of the Society and its original Secretary, they should send him a wire conveying their good wishes and their hope that he might have a speedy and complete restoration to health.

Mr. Angwin seconded, and the President having cordially endorsed the suggestion, a telegram was despatched to Mr. Martin in the following terms: President and Members of Southern Counties Veterinary Society regret cause of your absence, send you good wishes and heartily wish you a speedy and long continued restoration to good health.

It was also resolved on the proposition of Mr. Whitley Baker, seconded by the President, that the Hon. Sec. should send a letter to Mr. A. Maynard, of Bournemouth, in similar terms.

The Hon. Sec. reported the circumstances which had led to the venue of the meeting having been altered from Bournemouth to Portsmouth, and mentioned that Mr. Archer had written that in the event of their meeting at Portsmouth and ladies being invited, it would have given his partner and himself much pleasure to have entertained the members and their friends to tea on the South Parade Pier, where a room for the meeting could also have been obtained. Mr. Todd added that he consulted the Executive Committee who were of opinion that owing to the short notice and other reasons it was inadvisable to take advantage of the offer on the present occasion and he had accordingly written to Mr. Archer to that effect, at the same time thanking him on behalf of the Society for the very kind invitation.

The President: I think the least we can do is to endorse that by passing a special vote of thanks to Mr. Archer to-day and informing him that it was on

the advice of the Executive Committee that the Secretary acted as he did, and that this meeting confirms his action.

Mr. Angwin made a proposition to that effect, Mr. Henderson seconded and the resolution was unanimously agreed to.

Mr. ARCHER on being informed of the resolution on his arrival at the meeting a few minutes later, briefly acknowledged the compliment, adding that they would have been very pleased to have entertained the Society.

The Hon. Sec. submitted a letter from Mr. Theo. C. Toope with reference to the question of the fees paid by Insurance Companies and also that of the fees and allowances made to Veterinary Inspectors. In connection with the latter matter, Mr. Toope wrote that he was desirous that some attempt should be made to better organise their members for acting in concert, and he made various suggestions for achieving this result, one of which was to call meetings of the Veterinary Inspectors on the same days as the general meetings of the Society, at which these matters could be discussed, and then to appoint four or five members as a standing Committee to deal with all matters affecting veterinary inspectors specially.

Mr. E. WHITLEY BAKER: I think we might ask the Veterinary Inspectors in our district to meet just prior to our next meeting and then Mr. Toope's suggestion can be laid before them. I move accordingly.

Mr. PACK seconded.

Mr. ANGWIN: Will any veterinary inspector who is not a member of this Society be able to attend?

The President: Undoubtedly.

The proposition was then put and carried.

The President asked the members to rise while he made a brief reference to a very sad matter. Since their last meeting, one of their oldest and most esteemed members in the person of Mr. R. Roberts, of Tunbridge Wells, had passed away. Unfortunately his death occurred without Mr. Todd becoming aware of the fact until some days afterwards, and he personally knew nothing of it until he read the report in *The Record* on the following Saturday. The consequence was they were not officially represented at the funeral and no wreath was sent, either which he was sure they all much regretted. Mr. Roberts was one of their most esteemed members. Not only was he an excellent veterinary surgeon and an old practitioner who had kept himself thoroughly up to date, but he was a first-class man all round, and whom to know was to feel he was a friend. Their Society and the whole of the veterinary profession had lost a very great deal by his death, and particularly would they miss his genial presence at their meetings. He knew as a fact that he took the very greatest interest in their Society, and that he had a feeling of great personal friendliness with every member. They could only trust that his practice would continue to flourish in the hands of his son Mr. Charles Roberts, who was also one of their members. He was extremely sorry they were not able to be represented at the funeral, but they could at least ask their Secretary to write a letter now to the family expressing their sincere regret at his loss and their condolence and sympathy with them in the sad bereavement they had sustained.

Mr. DELLA GANA seconded, and the proposal was at once agreed to in silence.

The President added that he thought it might be as well if the Secretary sent a transcript of what had just taken place; Mr. Roberts might then see that it was not simply a formal resolution, but that it was really intended to represent their feelings in the matter.

The Hon. Sec.: I shall see that that is done, Mr. President. I may say that I knew nothing of his death until I saw the report of the funeral in the papers, but I immediately wrote to Mr. C. Roberts explaining why no wreath was sent, and why we were not represented

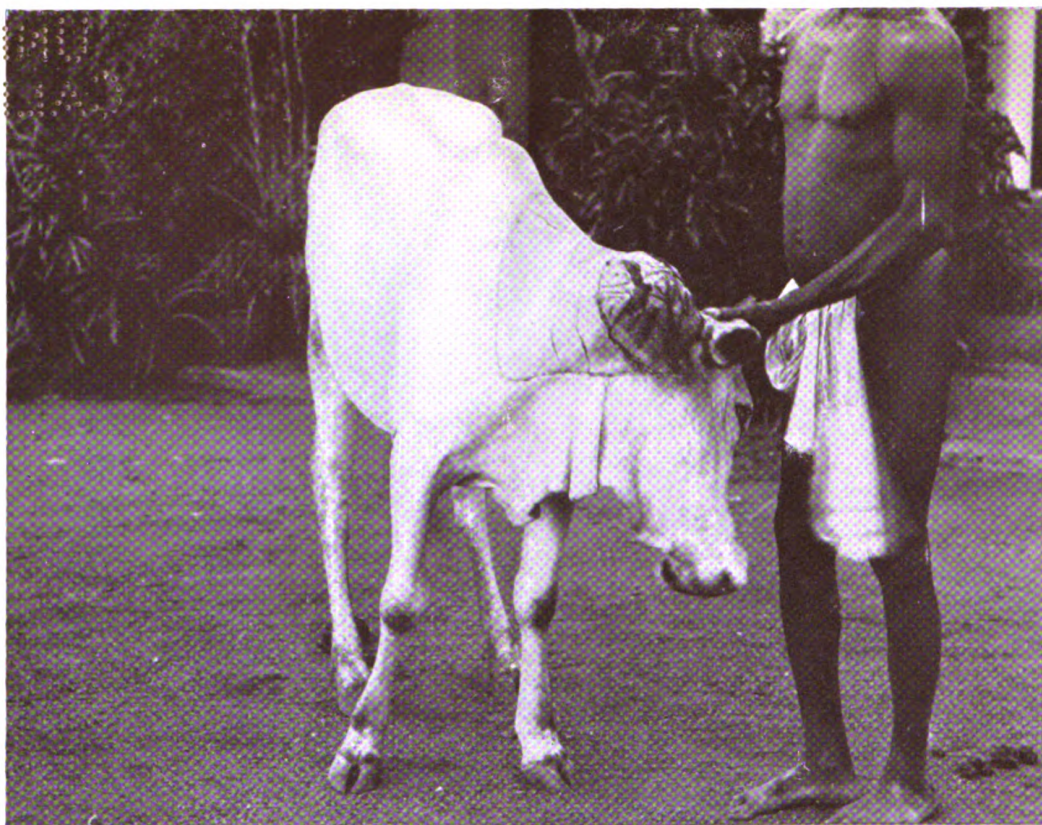


KERATOMA.

Near fore of a van gelding; shown at the meeting of
the Central Veterinary Society, Thursday, June 5.

By Mr. R. EAGLESHAM, M.R.C.V.S.

70 1/2
A11908



DISLOCATION (?) OF CERVICAL VERTEBRÆ IN A NELLORE HEIFER.
Note by Mr. F. WARE, M.R.C.V.S., Indian Civil Vety. Dept.

at the funeral, and also my only regret that I could not attend; and he sent me a very nice and appreciative letter in reply.

New Members.—Mr. W. E. PETTY, of Southsea, who had been nominated by Mr. Archer, and seconded by Mr. P. J. Simpson, at the last meeting, was formally elected a member, and was cordially welcomed by the President.

Capt. OLIVER, of the Army Veterinary Corps, recently stationed in Egypt, and now residing in England on leave, was nominated by Mr. Angwin for election as a member at the next meeting; this was seconded by Mr. Archer.

On the proposition of Mr. Angwin, seconded by Mr. DellaGana, it was decided to hold the next meeting at Brighton on the last Thursday in September.

The PRESIDENT intimated that he would have much pleasure in entertaining them either to lunch or tea whichever they preferred. He hoped that if they made it lunch, they would turn up in good numbers and let them have a really big meeting. (Hear, hear).

PRESIDENTIAL ADDRESS.

Mr. LIVESEY explained that he had not had time to prepare a proper address. All he had done had been to string together a few rough notes. If they wished it he would do his best with these, or he would try to get them something better for the next meeting.

Mr. E. WHITLEY BAKER: I think we should prefer to hear what you have to give us to-day, Mr. President. (Hear, hear).

The PRESIDENT: Well, gentlemen, I must first of all thank you for having elected me to the chair. It gives me particular gratification to be President of this Society because it is a Society in which I have always taken a very great interest. It certainly has some attributes which appeal to me that other Societies have not, and when one is a member of a Society which one likes particularly, there is nothing more gratifying than to be eventually called upon to take the chair. In a presidential address it is usual, I believe, to review matters that are before the profession, and presidential addresses are also, I believe, as a rule extremely dry. Still, these things have to be given, and if my views are not exactly the same as those of some of the other members, it may perhaps add a little piquancy to what I have to say.

Undoubtedly the matter that occupies our attention most to-day is the Bill that is now before Parliament. It is in my opinion the most important question that is before the profession at the present time, and it is a matter also I think that deserves our warmest support and our most earnest consideration. The Bill is necessary I take it for many reasons. It is necessary in order that the College may avoid bankruptcy in the first place, and secondly it is necessary in order that we may re-establish ourselves on a sound financial basis. There has been a good deal of controversy as to what the levy on the members should be. We might make ourselves financially sound on a 10/6 basis. That at any rate is the opinion held by a great many of our members, and I must say that I am inclined to agree with them, but I would ungrudgingly give my guinea, and I think practically the whole of the profession would do the same. I think the half-guinea is absolutely necessary, but I also think the guinea would be very much better. A guinea subscription would bring in a surplus, and while on this aspect of the matter I might observe that it seems to be exercising the minds of a great many of us as to what should be done with that surplus. Letters have been written in *The Record* on the subject, and it has also been discussed when members have met together at the meetings of the various Societies. A large number seem to be under the impression that the first necessity after paying our expenses is to set up a fine library and museum, but I am not one of those who

agree with that. A library and museum do not seem to me so important as to have large invested funds and a good cash balance at the bank. This Society was one of the first to urge, and urge strongly upon the Council, the necessity of fighting quackery, horse dentists and dog doctors and those sort of people. To that end we made a special effort to get our own representative on the Council in the person of Mr. Walter Burt, and later he was joined there by Mr. Richard Roberts. Those two representatives on the Council worked hard in our interests, and they have both done their best to let the Council and the Registration Committee see how urgent is the necessity for putting down, as far as possible, quackery, and the illicit practising by those who profess to be veterinary surgeons while calling themselves by some other title which may or may not be an infringement of the Veterinary Surgeons Act. To carry out this work successfully, however, money is urgently required. The members of our Parliamentary Committee are almost crippled in their work by the lack of funds. It seems to me that more money to help the legal and Parliamentary work of the Council is our immediate necessity, and our funds should be used in this direction before we spend them on the luxury of a fine library and museum. Our first duty is to establish the profession on a sound basis and so guard it that it cannot be assailed. When we have done that it will then be time enough to gratify our pride by having new premises fully equipped with a library and museum worthy of the profession. Next year an International Veterinary Congress is to be held in London, and I trust it will be a great success and do us good by bringing us and the importance of our work prominently before the eyes of the public. My only regret is that the Congress is to be held next year and not some years hence, for it seems to me that the time is hardly yet ripe for such an event. For is not our College rapidly running into bankruptcy, and while we are arguing among ourselves and in the columns of *The Record* as to whether we shall pay 21/- or 10/6, or even nothing a year to support our tottering governing body, were are being asked at the same time to find £3000 to entertain a lot of foreign gentlemen who may well go home after their meeting laughing at the way we manage to look after ourselves and our interests. Charity we are told, begins at home. However, now that all the details of the Congress have been arranged it only remains for us to see that it is carried through with energy, tact, and thoroughness. To turn to another matter, the profession is to be congratulated, I think, on the position of importance it is called upon to take under the Tuberculosis Order and on the skilled work it has to perform, and I sincerely hope the Milk and Dairies Bill will soon become law and bring more grist to our mill and further enhance our reputation as a profession. Although so poor financially, the profession has I think prospered in many other ways. We are, for instance, now established and recognised as a profession, and it is no longer an indignity to be a veterinary surgeon. I say this advisedly, because I can remember many years ago, when I thought I would like to become a veterinary surgeon, some of my friends in the north pooh-poohed the idea, and held up before my eyes the indignities that were generally put upon veterinary surgeons. But those days have now passed away, and veterinary surgeons are able to take up the position which they ought to take. This I think is largely due to the position that has been taken up by the Army Veterinary Service, and here again I had a personal experience which might be worth relating. I remember that when I mentioned to some other people in the north that I was going to study for a veterinary surgeon, they remarked "You are not going into ordinary practice surely: if you go into it at all you will go into the Army." I replied that I might or I might not, but I thought I would prefer private

practice, and they told me then that the Army Veterinary Service was the only place where I should get my proper status. I only mention this as an illustration of the position the veterinary profession then held in the eyes of the public. Those days have, however, now changed for the better, and the veterinary surgeon has taken his proper status in Society. He meets other professional men on an equality and very often as their superior. This change is due in a great measure also to our hanging together and being more friendly among ourselves; and this friendliness has been greatly fostered and increased through the agency of societies such as ours. This is one reason why it is such a pleasure to me to be a member and why it gives me particular pleasure to have the honour of being President of this Society. I have never yet known of a single member being present at any of our meetings and being unwelcome. All are friendly with each other and our meetings are pleasant re-unions. I sincerely hope our Society may long continue to hold the reputation it has gained throughout the country for good fellowship. (Applause).

Impromptu discussions on subjects drawn by ballot occupied the greater part of the remainder of the sitting.

"JOHNE'S DISEASE."

Mr. ANGWIN, whose name was drawn, observed that he thought they must almost be getting tired of hearing him on this subject, after the two papers he had given them on it. He did not propose to detain them very long that afternoon however. He was still studying the matter, and he might tell them that he had got some beautiful specimens from which he had been trying to make some micro-photographs, because he had promised their hon. sec. a paper at the end of the year on the daily use of the microscope in practice. He had already got about twenty-five slides prepared, and he hoped to be able to show from thirty to thirty-five on the screen, and to give them material for a really good discussion later on. Personally he did not think this disease had abated in the slightest, at all events in that neighbourhood. He had two cases quite recently and he wrote at once to Mr. Twort for a supply of his vaccine, which he used, and he took the temperature every two hours for eighteen hours. Neither of the cows had reacted to tuberculin, and he was perfectly certain they were not tuberculous. He must admit the vaccine he used on this occasion was rather cloudy, but at all events he did not have any results. When tuberculin first came out it was very much over-rated and it took several years before the public and the profession found that it was simply a diagnostic agent. There was, however, no more satisfactory diagnostic agent used in his opinion than tuberculin when it was properly done and the temperatures properly taken, and they must not be too hurried in coming to a conclusion about this vaccine. If they waited a bit and used it carefully he thought they might discover either that it was an ordinary diagnostic agent, or possibly it might be found to be curative.

Mr. DELLA GANA: What quantity did you use?

Mr. ANGWIN: Two drachms.

Mr. PETTY, who was called upon to continue the discussion, remarked that this was a subject he knew very little about. As far as Twort's vaccine was concerned, he had had no experience of it at all, but as far as Johne's disease was concerned, he believed it was claimed to have been seen in dogs on several occasions as well as in cattle. He did not see any reason why they should not be able to prepare a similar agent to tuberculin as a test for it eventually. The bacteria themselves were extremely alike, and they were probably of the same family; Tuberculosis often took on an intestinal form, they were both tissue parasites, and they

were also similar in other respects. The diagnostic power of tuberculin was a matter that was very much under discussion. Whether it was all that it was reputed to be or not he could not say, but he thought it ought to be put under State management and standardised.

Mr. HENDERSON, like Mr. Petty, was obliged to admit that he had had very little experience of this disease, but it was a subject that had been occupying his attention for some time. He had one case of a pig which made him think it was possibly this disease. The symptoms were analogous to those they found in the cow. The only thing he found that acted with any success in abating the diarrhoea was liquid paraffin, or petrol. The curative effects of this, however, were only temporary, and the discharges came on again as bad as ever after a time.

Mr. ARCHER remarked that this Johne's Disease was one of which he had seen a good deal in former days, but not much lately. It used to be called intestinal tuberculosis or consumption, but for quite a number of years now they had recognised it as being an entirely different disease. Personally he did not think the parasite had any near connection with those of tuberculosis. Although they gave symptoms which might be mistaken for each other, the general effect upon the system was quite different. Neither did they yield to the same treatment, because in many cases where they got tuberculosis in the early stages they could check it to some extent by treatment, but his experience of Johne's Disease had been that it was absolutely impossible to do any good. The best thing he had ever tried had been powdered cinnamon but he did not suggest this as a specific. Unless very great care was exercised with Twort's vaccine he was afraid the results would be disappointing. He had the privilege of a personal interview with Mr. John Burns about seven weeks ago, and this tuberculin question was one of the things he tried to impress on him very strongly. He pointed out that there were a great many individuals who injected their cows periodically and thus rendered them more or less immune to the action of tuberculin, although the animals might be tuberculous, and that the state of things would nullify to a considerable extent the objects of his Bill. Mr. Burns replied, "Yes, I see that is a serious matter, but is there any way in which we can check the sale of tuberculin?" He replied that he was afraid there was not by the British Government, because anyone could get it from abroad just the same as in England. Mr. Burns then asked if there was anything he could suggest that would enable them to check the sale and use of tuberculin, and he replied that he thought something might be done by making it illegal for anyone but a qualified man to use it. In other words treat it as a dangerous drug or poison. That was the only way in which they could check the use of it. He did not say it would stop it altogether, but it would certainly check the indiscriminate use of it to a very considerable extent. Mr. Burns admitted that that seemed a feasible and practical way of doing it. He (Mr. Archer) had also been in communication with Mr. Runciman on the same subject, and he was assured that it was under consideration; and he trusted that this consideration might be the means of leading to something being done.

Mr. DELLA GANA remarked that he had very little to say on this subject except that he thought the disease was very much akin to tuberculosis, and that he hoped Mr. Twort would succeed in producing some form of serum which would be efficacious in diagnosing, if not in curing the disease.

Mr. PACK said that there did not appear to be any very definite knowledge as to what this disease really was. That it was a bacteria infection of the intestines there was not the slightest doubt, and it was also a most

insidious disease, but beyond that they knew very little. As far as treatment was concerned he had never had any good results. It was a mistake to suppose the scouring would never stop because it would stop for months, but one always felt on tender hooks as to when it was going to start again, and the chances were that sooner or later it would, at all events his cases had always ended in the animals getting so emaciated that they either died or had to be poleaxed. Lately he had had the disease cropping up in single cases. In one case in particular he got a decided re-action to the tuberculin test and put her down as tuberculous. A sample of the milk was sent up but the report came back "No tuberculous bacilli." In the meantime the animal had started scouring, and as it was becoming very emaciated he reported her as tuberculous and had her slaughtered, when he found plenty of evidence of Johne's disease but none whatever of tubercle.

Mr. E. WHITLEY BAKER on being appealed to continue the discussion was afraid he could not add anything to what they had already heard. The most interesting part of the discussion to his mind had been what they had just heard from Mr. Pack. It seemed to him that if they were going to get a reaction to tuberculin in cases of Johne's Disease they would be in a fix later on.

THE TUBERCULOSIS ORDER OF 1913 AND ITS EFFECT ON THE VETERINARY PROFESSION.

Mr. ARCHER, who was called upon to open, observed that he believed they would find this Order and the Milk and Dairies Bill were going to have a very important effect upon their profession generally. He understood that the veterinary inspectors, of whom he did not happen to be one, were forming an association with a view to fixing the fees to be charged for the inspection of animals under these two Orders, and that they were excluding the unqualified practitioner from their ranks. He quite approved of that, but seeing that the Bill proposed to give the unqualified man the same position as the ordinary practitioner, it seems a little inconsistent to exclude them from the new Association, because it would give the unqualified men an opportunity of charging what they liked. What was going to happen he was afraid was this—the general practitioner would find that his practice would be encroached upon by the Inspector, whoever he might be, because the owner, when he had an animal ill from any cause, would for his own protection report it to the Authority. The latter would send an inspector down to see it, and it would at once pass out of the general practitioner's hands into official hands, and in some cases it might happen that when an inspector went to see an animal reported as being a suspected case, he would suggest treating it for a little while to make sure. This was what had already happened in his experience.

Mr. E. WHITLEY BAKER remarked with reference to the appointment of unqualified men as inspectors, that he failed to see how members of their profession could recognise them as members of the Inspectors' Association. How they were going to deal with this aspect of the matter he did not know, but it seemed to him that the only course they could with dignity take would be to do what Mr. Archer had done with regard to the sale of tuberculin—and approach some Parliamentary Authority. The only other remark he wished to refer to was that about members of the profession having their practice taken away from them by the Inspectors visiting their clients' places. Unlike Mr. Archer he was an Inspector, but he hoped none of them had such a bad opinion of him as to think that if he went to a fellow-practitioner's client and found an animal suffering from tuberculosis or suspected tuberculosis he would be pig enough, he could not use a milder term, to suggest that he should treat the animal himself. He admitted that

this might happen in certain cases, but no legislation in the world would alter it. They could not make gentlemen of men who were not gentlemen.

Mr. HENDERSON remarked that before this 1913 Order came in force he thought he was going to have nothing to do with it, but in his district it had acted in just the other way to what Mr. Archer had suggested it would. Farmers generally had a special dread of legislation, and rather than have an inspector come about their premises they were coming to him, and he found he was getting clients that he never expected to have, simply because another practitioner happened to be the veterinary inspector. There might be something in what Mr. Archer had said, but it cut both ways.

Mr. PACK said that up to now the new Tuberculosis Order had made very little difference to him, but the question he should like to put to them was this—What cases were they to condemn? He had treated two cases where he had got a re-action up to 107, and yet in neither case was there any sign of tuberculous milk, injury to the udder, or emaciation. What ought he to do?

Mr. ARCHER: Report it as a suspicious case.

Mr. PACK: But on what grounds. If you report them as emaciated or on one of the other grounds, and the animals are slaughtered, the owner gets compensated according to the advance the disease has made, but what are you to do when there are none of these definitions present. At the same time I should not feel satisfied with letting those cows go.

Mr. DELLA GANA remarked that he was not an inspector, but only a poor practitioner, and his experience of the working of this new Order had not been very satisfactory. After going to a great deal of trouble and much observation he had reported certain cases, and the result had been he had had to meet a policeman and the local inspector, and had been told to go. He thought with Mr. Archer, that the Order would in time deprive the general practitioners of a great deal of their work. The appointment of unqualified men as inspectors he considered was disgraceful. They reported a case of suspected tuberculosis and the inspector, an unqualified man, came in and either confirmed or disapproved their opinion. It was most undignified, and he thought this aspect of the matter should be brought to the notice of the Board of Agriculture by their Societies most strongly.

Mr. ANGLIN said that his advice to them was to study this Act very carefully. The Order was on trial, so to speak, for five years, and the local Authorities were asked to appoint a sufficient and an efficient veterinary staff to carry out its provisions. That was to say, any local Authority had power to appoint men to act under the Order. He had already applied to the County Council to be appointed and it was open to every other member to do the same. There was one thing in the Act he wholly objected to, and it was this—any local practitioner who in his daily practice discovered a case of undoubted tuberculosis, was asked to report it, and he would be rewarded with the munificent sum of half-a-crown. Was that a reward or a bribe? Personally he thought the Act would fizzle out. A man had a cow, possibly a tuberculous animal. If killed, and it proved to be Johne's disease he got nothing. If tuberculous, by the time he had gone to the expense of having it tested he would find it would pay him better to send it to a knacker's yard in the first instance, and not mess about with the Act. They must also bear in mind that the Authorities had not got a lot of money to waste, and although they could spend any amount of public money on the Act they were going to use a little common sense.

Mr. BAKER thought it was rather unkind to put them all in the same category. He had frequently gone into a fellow practitioner's preserve, but he had always re-

fused to take any work out of another's hands, and hoped members of the profession had a better opinion of their fellow practitioners than to imagine that there were many who would do other than he had done.

Mr. ARCHER, referring to Mr. Pack's observations, remarked that under the Contagious Diseases of Animals Act, every inspector who had a reasonable suspicion that an animal was affected with a contagious disease was bound to report it, and they were all of them only suspicious cases until one had made a post-mortem. Tuberculin was not an official test, but it was recommended to be used with the owner's written consent as an aid to diagnosis, and if they used it at all and got any reaction, surely they must abide by the result.

The PRESIDENT remarked that when he made the observations he did in his address, he had no idea it was possible for an unqualified man to hold the position of inspector.

Mr. ARCHER: I believe there are twenty-six unqualified men acting as inspectors under the Act already.

Post-mortem specimens and cases of interest were subsequently invited, and Mr. Angwin submitted an interesting specimen of a split pastern of a horse, the result of what was commonly known as a spontaneous fracture.

The customary compliment to the President for presiding, proposed by Mr. Pack, and seconded by Mr. Archer, brought the meeting to a close.

J. ALEX. TODD, Hon. Sec.

ROYAL SANITARY INSTITUTE CONGRESS.

CONFERENCE OF VETERINARY INSPECTORS.

ADDRESS by Prof. J. PENBERTHY, F.R.C.V.S., President of the Conference.

[ABSTRACT].

I hope you will first allow me to express my appreciation of the honour of being invited to preside over this important conference. Though I do not enjoy the advantages of occupying the position of veterinary inspector, it has been my privilege to take some small part in the education of many of those who in that position are rendering valuable service to the State, and I may at least lay claim to a deep interest in all means designed for the accomplishment of the object to which your energies are specially directed. I should like to use this opportunity to offer you my congratulations on the formation of an association, the aim of which is to render your services still more valuable to the community and to obtain for your work the recognition it deserves.

I take it that we are met here in conference to-day as a section of this great Congress with the common purpose of acquiring and, may be, disseminating knowledge adapted to the improvement of the conditions under which human beings exist, in the hope of becoming better qualified to suggest and carry out measures which will render human life more secure from the dangers by which it is beset. The veterinary inspector, if he aims at the highest degree of usefulness and satisfaction, will never lose sight of the high character of his work in relation to human health. Though in a strictly professional sense, his official sphere of action may be limited to the consideration of diseases communicable from animals to man, and the means of averting such communication, the veterinary inspector, as a citizen of the world, with ideals and aspirations in nowise inferior to those which guide conscientious workers and thinkers in other spheres of life, is not called on to exclude himself from taking part in deliber-

ations on other aspects of public health. In the exercise of his administrative and executive duties, a judicial mind is essential for the most effective application of technical knowledge pertaining to his profession. His education and experience should afford him specially favourable opportunities for forming, on sanitary matters generally, sound opinions, the expression of which would often add value to the deliberations of local sanitary and even imperial authorities.

I venture to think that a much more frequent association of members of the veterinary profession with public life, would prove of advantage to the community and to their profession. Happily, evidence of a higher appreciation of his work in relation to the public is evidenced by their more general enlistment in the sanitary service. In all questions, which entail consideration of the hygiene and disease of domesticated animals, the properly qualified veterinary surgeon must occupy the position of responsibility, and even if the matters considered have reference to the relation of animal disease to human health, the determination of the condition of the animals and the circumstances affecting their health, including those necessary for preventing the occurrence of diseases in them, must necessarily rest with him, who, by virtue of his special education, his experience, and his statutory qualification, may claim the performance of such duties as his prerogative.

The duties of the veterinary inspector not infrequently involve pronouncements distasteful to those with whom it is most desirable that he should have agreeable relations. I have no intention of reading you a homily, gentlemen, but with your indulgence may I be permitted to say that, while I regard it only commonly honest for you to use every opportunity for making yourselves proficient in the professional knowledge essential to the best performance of what are often extremely difficult duties, for the most successful application of that knowledge the co-operation to be secured by the good will of those connected with the objects of your inspection is the greatest asset you can acquire. The exercise of the best tactics at your disposal are often necessary to overcome a general prejudice against inspection of any kind, and to meet individual peculiarities. I do not suggest a cringing opportunism, or that your actions should be affected by fear or favour, and am only incited to refer to this aspect of the question as a result of personal observation of the great power for good which many inspectors, who adopt the conciliatory attitude, exercise, and in rare cases, the converse.

It has been a source of great satisfaction to me, in my association with agriculturalists deliberating on cognate topics, to observe much evidence of confidence in the profession, and the desire to see them in occupation of positions to which their professional knowledge entitles them. The elimination of disease from our cattle, and the removal of the danger of communicating disease to the human subject, will be more speedily accomplished by voluntary action in conjunction with the performance of statutory obligations than by the latter alone. For instance, at present there is amongst stock-owners widespread prejudice against the use of tuberculin as a test for tuberculosis. It is certain to my mind that without this, or some other aid at present unknown, the eradication of tuberculosis will never be accomplished. I look to the intimate relations of the veterinary inspector under the Tuberculosis Order and the owners of infected herds as a means of establishing confidence in this aid to diagnosis, and an extensive voluntary adoption in the interest of the stockowner and the community.

The difficulties of the inspector may commence with the owner, but assuredly they do not end there. In dealing with such a disease as tuberculosis, as, indeed, with all others, correct diagnosis is a fundamental

essential. In this respect he cannot fail to find himself at times in a position of great delicacy. His opinion given during life is submitted to the scrutiny of post-mortem examination, and the result of any error he may make is subject to the criticism of his local authority through the chancellor of its exchequer. This work demands a high degree of professional skill and wisdom, and even in full exercise of these qualities the most skilled and wisest must be liable to risks of error in this sphere of action. That this is a matter of special interest is evidenced by the wise selection of diagnosis as a topic of discussion at this conference.

The diseases existent in Great Britain known to be communicable from animals to man, though small in number, are far from unimportant. The elimination of rabies from the category and the consequent disappearance of hydrophobia, the diminution in the cases of glanders in our horses by 75 per cent., and the control exercised over anthrax, which have all been effected in the past decade, stand in a great measure to the credit of veterinary inspection. Some other diseases, recognised as communicable but of less serious import, remain, and possibly there may be others whose relations to man are not yet ascertained, but I may venture to say that the chief interest at present centres on tuberculosis.

Five years since it was my privilege to preside over a similar conference at Cardiff, when I took advantage of the opportunity to cursorily review the position of the tuberculosis question at that period. Since that date an immeasurable amount of research work and inquiry has been accomplished, and large areas of paper have been occupied by contributions to the literature of the subject. The final report of the Royal Commission on tuberculosis has been received and discussed, with the result, I venture to think, of deepening the conviction that some portion of the tuberculosis of human beings, especially of infants and young children, owes its existence to tubercle bacilli derived from the lower animals, and principally taken into the body with cow's milk and other animal food.

The death-rate of man from tuberculosis, which the President of the Local Government Board, speaking in 1908, stated was "diminishing in this country generally, proportionately more rapidly than in any other country in the world," has continued to fall in a manner which cannot be regarded as otherwise than gratifying. The Chancellor of the Exchequer has entered the arena and, through the National Insurance Act, opened up the avenues of curative treatment. Demands for removal of the danger arising from tuberculous animals, though not less insistent on the grounds of being necessary, appear to have become more moderate and nearer to being practicable. On knowledge acquired in the interval it has been possible for some authorities to estimate, at least to their own satisfaction, the proportion of cases in which tubercle bacilli of the human and bovine types respectively are found. It has been variously estimated that in 10 to 25 per cent. of cases of tuberculosis of children under five years of age, those of the bovine type are the cause, while in cases occurring in man from fifteen or sixteen years upwards, their presence has been so rarely found in connection with his tuberculosis that, as a cause of the disease in adults, the bovine bacillus is practically a negligible quantity. Neither these figures nor the observations on which they are based have, however, brought universal conviction. There are some who persist in the view that a rapidly falling death-rate among infants from tuberculosis, and an increased consumption of cow's milk, indicate that the danger of materially curtailing the milk supply by withdrawal of the milk of tuberculous cows would outweigh the advantages now enjoyed.

The issue of the Tuberculosis Order, 1913, is perhaps the most important event to be chronicled in relation to

bovine tuberculosis and veterinary inspection. Though directly emanating from the Board of Agriculture, and, at any rate, ostensibly in the interest of the stockowner, there is good reason for believing that the real cause of its promulgation was consideration for the health of man, and we may regard it as one part of the great national scheme of campaign against human tuberculosis. I refer to the issue of this Order as the initial step, because I believe that every competent person who has made a careful study of tuberculosis in cattle and other domesticated animals, must be convinced that other and more drastic measures will be required to effect the final elimination of tuberculosis from the live-stock of this country. There can be doubt that the exclusion of cows yielding tubercle bacilli with their milk, having tuberculous udders, or being emaciated from tuberculosis, must lessen the numbers of bovine tubercle bacilli in milk consumed by human beings, and to a considerable extent diminish the risks of infection of farm animals.

It is gratifying to observe that the operations of the Order are directed to the permanent removal of the immediate and paramount source of danger to cattle and that of bovine tuberculosis in man.

Though it would be unfair to assume that any considerable number of stockowners would desire to keep dangerous cows and sell their noxious products, if they realised the danger, no form of inspection which may involve the confiscation of property which he regards as a valuable asset is likely to be pleasing; but I venture to express the opinion that considering all the circumstances, especially the outcry for drastic measures for the immediate extirpation of tuberculosis of cattle, the Tuberculosis Order of 1913 gives evidence of having been conceived and formulated at the dictates of moderation and with a proper regard for all the interests concerned, except, perhaps, in the amount of compensation, and the source from which the cost is to come. The stockowner will naturally feel that compensation should have been on a more generous scale, and it is to be regretted that it is not frankly admitted that it is in reality a matter purely of national health. It was doubtless intended to be complementary to a Milk and Dairies Act, and without the latter the Order is incomplete and less effective than if the Bill now before Parliament had become an Act. The Order cannot fail to have an educational effect of great value on the stockowner, the authorities, and the public. In view of the fact that the £60,000 annually provided by the Treasury for payment of compensation, is granted for five years only, it is not improbable that the whole cost of more radical measures, which may be enforced at the termination of this period, will fall on the owner and the local authorities. This should be an incentive to local authorities to carry out the provisions of the Order, and to the stockowner to make every attempt to purify his herd, while even the small modicum of compensation is available.

Notwithstanding all the investigation by research and ordinary observation, results of which have been recorded, it cannot be stated that opinion on all essential points is unanimous, or that all the problems in connection with the relations of tuberculosis in man and cattle are yet satisfactorily solved.

In the current number of a journal devoted to State medicine, appears the statement of a well-known bacteriologist: "Public authorities have generally been in a state of indecision owing to the controversies which have divided scientific men." Doubtless this is true. I venture to say that the public have some reason for thankfulness that such variety of opinion has on occasions existed and exercised such an influence. We recall the statement of the medical officer of health, who advised his authority that tuberculosis of cattle could be eradicated in twelve months by the means successfully

adopted in the case of pleuro-pneumonia, but omitted to say that in order to effect this desideratum it would be necessary to eliminate the bovine species in this country. Also we have in mind the advice given within the past five years by the medical officer of health of one of the greatest cities the world has ever seen, "that every cow in the country should be subjected to the tuberculin test, and that no milk of any tuberculous cow should be allowed to be sold for human consumption." It was not stated that the cost of applying the test on the first occasion would be from a quarter to half a million pounds, and that, as this would mean the immediate withdrawal of 500,000 cows, it would possibly considerably reduce the cost of the second retesting, which would be necessary at least at the end of each six months for years to come. The effect of the withdrawal from our national food supply of 250,000,000 gallons of milk was not even referred to. The day for such extravagances is past, the scope of the Tuberculosis Order, 1913, as a complement to a Milk Bill, represents the limit of the sphere of operations which are consistent with our present knowledge, and are practicable at present.

There are, however, still many problems awaiting solution, and on which scientific opinion is widely divided. Among the more important questions are those of immunity, the transmutability of the bovine and human bacilli, and the ultimate effect of the early extirpation of the bovine bacilli. It is not necessary to reject any evidence, indicating that bovine tubercle bacilli taken with cow's milk are responsible for tuberculosis of children, to suggest that it is desirable that investigation on these and other points should proceed while the preventive measures dictated by our present knowledge are in operation. There is, perhaps, at the present time more general agreement on the following points: that bovine bacilli, taken in sufficiently large doses, or in smaller doses frequently, by infants and young children, are responsible for tuberculosis in a certain proportion of cases occurring at this age; while nearly the whole of the cases in man after the age of 16 are traceable to infection from a human source. It is stated on high authority that more than 90 per cent. of our population above 16 years of age are distinctly tuberculous, and that 98.09 per cent. of all fatal cases of tuberculosis are due to the bacillus of human type.

If it be maintained that tubercle bacilli of bovine origin do not, after prolonged residence in man, acquire the characters of tubercle bacilli of the human type, the danger of acquiring tuberculosis from eating animal flesh cannot be great, as, after 16 and throughout the flesh-eating periods, tuberculosis in which bovine bacilli are found is so rare as to be practically negligible as factors in the tuberculosis of adult human beings. This suggests that either the tubercle bacilli in flesh are so few or feeble as to be ineffective, or that after the age of 16, immunity, hereditary or acquired, against the fatal effects of the bovine bacillus prevails. The experiments reported on by the last Royal Commission on Tuberculosis indicate that the results of infection depend on the virulence of the individual virus, the dose received by the subject, and the resistance of the subject. In a communication to *The British Medical Journal* of February 1st, 1913, referring to an observation of over 6,000 cases of tuberculosis, it is stated:

"That there seems to be little doubt that a mild infection of bovine bacilli in the human body, such as neck glands by way of the alimentary canal, will protect against infection by human bacilli, and it is most probable that a large number of people are immunised by having been infected in early childhood by bovine bacilli through milk or food."

This view of the subject has been more or less freely expressed for some time, and I venture to think it

worthy of further consideration. We do know that the incidence of some diseases in adult life is materially affected by the fact that immunity is acquired as a result of an attack in youth.

Prof. Orth, Virchow's successor, at a recent meeting of the *Berliner Medizinische Gesellschaft*, maintained that the transmutability of the human type of tubercle bacillus into the bovine type had been proved by von Eber, and drew attention to his own experiments carried out in 1906, in which he claimed to have shown that a primary local infection with inoculated bacilli could create a heightened latent susceptibility to future infection, and that under such circumstances pulmonary phthisis was the usual sequel, and that a bovine infection contracted in infancy might play a similar part in the development of the disease in adult man was no unreasonable speculation. Here we have a directly divergent view based on experiments seven years ago. At the same meeting Weber, a member of the Imperial Health Commission of Germany, stated that post-mortem reports and experimental investigation had shown no parallelism in the incidence of the disease in man and cattle, nor were there any marked differences in the statistics of countries in which cows' milk was not the staple diet of bottle-fed infants and children. He further adduced the fact that of 280 children known to have drunk the milk of tuberculous cows, only two, and both these were cases in which the cervical glands were involved, had the disease subsequently, and that seven years later, during which time they had been under direct observation of the Board of Hygiene, not one of the 280 had died of tuberculosis.

These statements are not brought forward as argument that the procedure adopted by the authorities—which it is the duty of the veterinary inspector to carry out, is valueless or should be postponed, but to indicate that there is further work for research, ordinary observation, and enquiry; that still there are problems requiring solution; that they cannot all be solved through the microscope or with the guinea-pig; but to indicate that the enthusiastic veterinary inspector, acting in conjunction with the medical officer of health or independently, has it in his power to accumulate information by the method of direct observation and enquiry, and by recording it, to add materially to that store of knowledge by which the solution of some of the problems can only be effected. I venture to suggest the record of widespread observation of the events occurring to infants and children known to have ingested milk of cows discharging tubercle bacilli from a tuberculous udder. The results of a few such observations have, I believe, been published, but, in order to be of high or, indeed, of any statistical value such records must be numerous. Further, it has often been stated that among persons in close attendance on tuberculous cows from youth onwards and running great risks of ingesting and inhaling more or less constantly, bovine tubercle bacilli, the incidence of tuberculosis is, at least, no heavier than that among other classes of the community not exposed to such risks.

The question of natural and acquired resistance to serious infection is to the veterinary profession and the stockowners of special interest, in view of the possible discovery of a means of immunising cattle, and rendering them innocuous to their own and other species. With the aid of an easily applicable and safe method of establishing an effective resistance to infection, the veterinary aspect of tuberculosis would be easily solved. The study of this subject, however, has even wider significance and a far greater object in view, for if it should be proved that a considerable proportion of the 90 per cent. of the population, above sixteen years of age, which are stated to be distinctly tuberculous, owe their freedom from its fatal or serious effects to the in-

gestion of small doses of bovine tubercle bacilli during infancy or childhood, it would become necessary to consider the advisability of using the bovine bacillus, under control, as a means of providing immunity; and the probable effect of extirpation of tuberculosis in cattle, before tuberculosis due to infection by bacilli of human type is brought under control.

VETERINARY ASSOCIATION OF NEW SOUTH WALES.

PRESIDENTIAL ADDRESS.

By Mr. S. T. D. SYMONS, M.R.C.V.S.

Gentlemen,—It is just a year since the Veterinary Association of New South Wales was brought into existence, and, having the honour to be elected as your first President, it now affords me pleasure in delivering this address, a procedure which I believe is an annual occurrence in relation to societies of this nature.

As most of you now present are aware, this is not the first effort of veterinarians in this State to band themselves together in the interests of their profession, for as long since as the year 1894, a Veterinary Medical Association was established. It struggled along fairly actively for a period of three or four years, after which it remained moribund, until the steadily growing feeling of unity amongst the members of our profession resulted in a meeting being held at the Veterinary School, Sydney University, on May 10th of last year, when it was decided to resuscitate the Association.

Before passing on to the progress of our Association, I feel sure you will accord with me in brief reference being made to the old Association. Amongst members were Messrs. John Stewart and John Pottie, veterinarians of the day, who were well and favourably known, and whose decease is much regretted; Edward Stanley, who although still with us, is leading a life of peaceful retirement after performing what must be recognised as good work for the State, often under serious disabilities. Of the others, some have gone to distant climes, many are still amongst us, and several are present here to-night.

It is a matter for congratulation to us all that I am able to remark that as regards membership, our Association shows very excellent progress. With 10 members at its formation, a rapid increase in numbers occurred, until a total of 33 was reached, with three Associates. Two members have resigned during the year owing to their leaving the State, but there are other nominations to come before us, which will strengthen our ranks yet further.

During the first year of its existence the Association may be said to have thoroughly justified its formation by its action in regard to matters of such prominence as the endeavour to bring before the legislature a much needed Veterinary Surgeons' Bill; representation of the profession on the Tuberculosis Advisory Board; and the formation of an Australasian Veterinary Association. It has thus evidenced its desire to advance the status and power of the veterinary profession.

Referring to the Veterinary Surgeons' Bill, as far as my memory serves, such a measure was discussed by the old Association, but I believe it was decided that the introduction of legislation of this nature to Parliament was at the time premature. With the general growth of the State, and with the establishment of a Veterinary School at the University, it seems a matter for extreme regret that no such legislation has yet come into operation to protect the interest of those now professionally engaged as well as those who will shortly qualify from the aforementioned Veterinary School. Moreover, at

the present time, unwarranted mortality amongst animals no doubt occurs, and cruelty is rife, from the widespread empiricism that exists. The stockowner as a rule is not in a position to recognise between the veterinarian who is properly qualified, and perforce in some degree humane, and the charlatan who from lack of suitable training, inflicts indescribable tortures on the dumb creatures which he is called upon to treat. Such legislation, therefore, would be in the interests of stockowners also.

Duly qualified veterinarians are not numerically strong in New South Wales, and as in many instances they are far apart, any concerted action in the past has been difficult of accomplishment. To their credit, however, it must be recorded that although certain prior disjointed action had taken place, in the year 1909 meetings were held which resulted in a Veterinary Surgeons' Bill being drafted, some of those attending coming very long distances. This is the Bill we now strongly desire to become law. Deputations from this Association have waited upon the Honourable the Minister for Agriculture, by whom the measure will be introduced to Parliament, pointing out the disabilities the profession and stockowners now suffer, and urging that early action may be taken. Your Council also have had several meetings for the consideration of certain amendments thought to be necessary, and must be thanked for the very careful attention bestowed on the subject. Gentlemen, it will rest with you to keep this matter prominently before your Association, and exercise extreme vigilance in the endeavour that a satisfactory ending may be arrived at.

I will now say a few words as to the future prospects of veterinarians in this State, and I consider my remarks are equally applicable to the other portions of the Commonwealth, as well as to New Zealand. We cannot all aspire to be Administrators of Territories, or Under Secretaries for Agriculture. It appears to me, however, that with your professional rights protected by satisfactory legislation the future outlook is bright. As your abilities become to be better recognised, a much greater number of varied official positions will be created, and I do not think the time is very far distant when the heads of Government departments in the different States dealing with Stock matters will be veterinary surgeons. Other factors in advancing our prospects are the generally improved values for all classes of stock, closer settlement, with consequent agricultural development.

Together with Professor Stewart, it was my privilege to be selected as a representative of the Association on the Tuberculosis Advisory Board. It is perhaps needless to mention that every courtesy was extended to us by its members, and I may perhaps be excused in remarking that I believe our particular knowledge was of great assistance to the Board in its deliberations. In recognition thereof, I may state that the Professor was appointed a member of the Sub-committee to draft a report on the subject of "Milk," myself acting in a similar capacity in relation to "Meat."

Several of the members of this Association attended the Congress for the advancement of science held in Melbourne in January last, Professor Stewart being appointed to represent our interests. I do not think that I shall be out of place in mentioning that as a step in the general advancement of the profession, it has been decided to make veterinary subjects a separate section in the future, instead of it being a sub-section of Agriculture as in the past. Of more particular interest to us, however, is that it was then also decided to form an Australasian Veterinary Association, the meetings to be held at the same time and place as the Science Congress, also that our Association should undertake the arrangements in connection with its formation. This has been referred to, and, as the initial expenditure is

not large, it can be met out of our funds. That the action as indicated is a step in the right direction I think you will all agree, as tending towards a healthy professional co-operation throughout the Commonwealth and the Dominion of New Zealand. It is believed also that it will be a forerunner to the formation of many local societies.

I am pleased in being able to inform you that the finances of the Association are in a satisfactory condition.

On the professional side, two papers have been read at our meetings, and thanks of the members are due to those who brought them forward.

Dr. Dodd's paper was on "Osteomalacia"; Mr. Baker's on "The Lymphatic System of the Horse," a series of well executed diagrams thereon lending much additional interest.

Addresses were given by Mr. Sanderson on the question "Does the Bang System lower the resistance of cattle to tuberculosis when exposed later to infection," and by Mr. Henry on "Variegated Thistle as a poison plant."

All these matters were well discussed at the time by members present.

On the social side, the Association held a most satisfactory dinner in November of last year, a forerunner of what it is intended shall be an annual event. More recently we were able to welcome at a pleasant informal gathering the veterinarians from other States present

in Sydney, at a Conference in connection with the improvement of horse breeding by certification of stallions, and other matters.

In addition to those important matters already referred to, requiring the careful attention of this Association during the coming year, there are others of equal moment that might receive your consideration. I refer as instances to: Veterinary representation on the Meat and Abattoir Board. Similar representation on the Health Board. The desirability of the appointment of veterinary surgeons in charge of inspection at abattoirs, and to any subject of an allied nature that may appear on the horizon during the period.

In conclusion, gentlemen, I feel that the second year's progress of this Association will not only be equally successful with the past, but that it will be more so, and my very best wishes are to that end. My position as President has been rendered easy by the assistance of an energetic and capable secretary, and the kind attitude assumed on all occasions by members towards the Chair.

The officers elected for the coming year were:—

President.—Mr. S. T. D. SYMONS, M.R.C.V.S.

Vice-President.—Prof. T. D. STEWART, M.R.C.V.S., B.V.Sc. (Sydney).

Hon. Sec. & Treas.—MAX HENRY, M.R.C.V.S., B.V.Sc. (Syd.) 56 Bridge Street, Sydney, N.S.W.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders † (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.		
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered.	
	Con-firm'd	Re-ported	Con-firm'd	Re-ported										
GR. BRITAIN.														
Week ended July 12	10		13				4	11	37	70	1	65	939	
Corresponding week in {	1912	5		5		8	35	2	3	30	54	1	72	1013
	1911	9		9				3	4				61	955
	1910		12		12			5	36			3	45	265
Total for 28 weeks, 1913	333		261					95	268	1736	3568	122	1361	18550
Corresponding period in {	1912	513		573		45	252	92	191	2162	4770	164	1931	24580
	1911	500		621		4	85	111	286			304	1461	16500
	1910		846		1022			194	561			320	823	7332

† Counties affected, animals attacked: Durham 3, London 5, Middlesex 3.

Board of Agriculture and Fisheries, July 15, 1913.

IRELAND.	Week ended July 12	...	...	...	...	...	...	...	Outbreaks	9	4	18
Corresponding Week in	1912	...	...	...	15	46	...	...	...	4	7	16
	1911	...	...	...	...	...	...	...	...	1	2	167
	1910	...	...	...	...	...	...	...	...	2	3	117
Total for 28 weeks, 1913	...	...	...	...	...	...	...	...	92	333	90	542
Corresponding period in	1912	...	2	2	16	131	...	...	46	262	145	1313
	1911	...	5	6	...	...	...	2	44	244	69	1167
	1910	...	5	8	...	...	...	1	40	335	62	1527

† These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, July 14, 1913

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders.		Parasitic Mange.	Sheep Scab.	Swine Fever.	
	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.			Out-breaks	Slaughtered.*
IRELAND. Week ended July 5	...	...	...	...	...	...	Outbreaks	5	1	21
Corresponding Week in	1912 ...	...	1	85	...	...	1	1	1	22
	1911 ...	...	...	...	...	...	...	1	4	28
	1910 ...	1	1	...	...	...	2	1	2	69
Total for 27 weeks, 1913	...	...	...	...	...	...	92	324	86	524
Corresponding period in	1912 ...	2	2	1	85	...	46	249	138	1297
	1911 ...	5	6	...	...	2	44	243	67	1002
	1910 ...	5	8	...	...	1	38	334	59	1410

† These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, July 7, 1913

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Presentation to Sir C. J. Nixon.

The Principal and Staff of the Royal Veterinary College of Ireland recently presented a loving cup—a mother cup, of Irish make—to Sir Christopher Nixon, Bart., LL.D. Sir Christopher at the same time received the following letter from the Principal:—

“Dear Sir Christopher,—Will you kindly accept the accompanying loving cup from the Staff of the College with our affectionate regards and profound esteem? As you will see, we all unite in asking you to accept this token of our appreciation of all you have done, not only to place the College on a secure foundation as an educational centre, but in securing for the Staff State recognition and a permanent future. We all recognise how ungrudgingly you have worked and how the interest of the College and its Staff has been ever your interest also; but apart from that, we are anxious in some little way to show to you that we all have for you an affectionate esteem. The new change in the governance of the College, fortunately, does not interfere in any way with your connection with the College, and we all hope that you may long continue to take an active share in directing the destinies of the College. Please look upon this loving cup as a symbol—a mere outward token of our esteem and regard.—Believe me, dear Sir Christopher, yours very faithfully, A. E. Mettam, Principal.”

The following reply was received from Sir C. J. Nixon:—

My Dear Principal and Members of the Staff of the Royal Veterinary College of Ireland—I do not know how to thank you and your colleagues on the Staff of the Royal Veterinary College of Ireland, not merely for the extremely handsome presentation which you sent to me, but for the affectionate appreciation which you have all expressed of what I have been able to do in promoting the interests of the College. Your loving cup will be regarded as an heirloom which will be always associated with the traditions of my family in generations to come.

To those who have followed, as doubtless you have done, the marvellous progress of the College, the steady increase of the number of its students, the high order of the teaching given in the various departments of veterinary medicine, and the discipline maintained during the entire period of its existence, you may naturally ask to what is our success due.

First, that the College was an urgent necessity for Ireland; second, that from the year of its foundation it fulfilled with increased efficiency the purpose for which

it was founded; third, that it steadily established a claim on the State which could not be ignored, namely—that in the reorganisation of the Department of Agriculture, use must be made of a Veterinary College to help in co-ordinating all the elements which tend to make a State Department perfect in all details, including especially research work, such as will effectively aid the agricultural progress of the country.

You are good enough to point out that the change in the government of the College will not interfere with my connection with it in the future. That is so. My position in the future will enable me to look after your interests and to obtain for you a recognition of those services, which so materially helped to place the College in its present high position, services which the Department of Agriculture and Technical Instruction for Ireland has pledged itself to deal with, not merely equitably but liberally.

Again thanking you most cordially for the expression of your esteem and affection.—Believe me, gentlemen, always your sincere friend,

C. J. NIXON.

30th June, 1913.

Messrs. Weir, of Grafton Street, Dublin, supplied the cup, which is engraved with the crest of Sir Christopher Nixon and the names of all the members of the staff.—*Dublin Evening Mail*.

Royal Veterinary College.

Lord Moreton presided at the annual meeting of the Royal Veterinary College, on Tuesday. There were also present Lord Harlech, Lord Bathurst, Sir John McFadyen, Principal of the College, Major-General Pringle, Director-General Army Veterinary Department, and Sir T. Elliott. The report for the year showed that the income had exceeded the expenditure by £1,223 14s. 11d. as against £52 19s. 7d. in the preceding year. The result had only been brought about by a reduction in the salaries of members of the College staff, which the governors would now be called upon to make good in the form of a bonus. Mr. A. Brassey, a governor, in moving a vote of thanks to the Chairman, said that during the past year the Principal had been to India to study foot-and-mouth disease, and the College was already studying tuberculosis and other diseases in animals. If the College were better known it would not have to curtail its exertions through want of funds.—*The Times*.

Royal College of Veterinary Surgeons.

EXAMINATIONS IN LONDON.

At the meeting of the Board of Examiners held in London on July 7th for the Written, and on July 8th, 9th, and 10th for the Oral and Practical Examinations, the following gentlemen passed their Final Examination:—

Mr. W. A. Austin	Mr. V. J. Hare
C. E. W. Bryan	H. Hicks
J. Blackburn	W. Kendrick
R. T. Davis	A. V. Nicholas
C. Davenport	A. A. Pryer
H. W. Dawes *	J. M. L. Penhale
G. van de W. DeKock	J. Southall
R. Daubney *	W. L. Sheffield
G. O. R. Grey	A. R. Symthe
D. C. Greene	G. M. Vincent
A. Hoskin	J. A. Ward

Marked thus * passed with Second Class Honours.

EXAMINATIONS IN EDINBURGH.

At the recent Examinations held by the Court of Examiners in Edinburgh, the following students of the Royal (Dick) Veterinary College passed their Third Examination:—

Mr. N. Brear *	Mr. D. Marshall *
T. Dalling	T. M. Mitchell
J. W. Hayes	J. J. Plunkett
G. C. Lancaster	R. Simpson
R. G. J. Lake	B. van der Vijver

The following passed their Second Examination:—

Mr. W. H. Dennett	Mr. W. Hay
R. Dalling	C. K. Lomas *
J. Edgar *	B. Philp
W. Harley	R. K. Porteous

The following passed their First Examination:—

Mr. T. Bannatyne	Mr. J. Judge
A. Noel Metcalfe	E. H. Milner
N. Bisset	E. C. Nelson
J. D. Coutts	J. R. Rider *
J. S. Carewal	A. Rouse
G. Howie *	C. V. Watkins
J. Knox Irvine	

Marked thus * passed with Second Class Honours.

EXAMINATIONS IN DUBLIN.

At the recent Examinations held by the Board of Examiners in Dublin, the following students of the Royal Veterinary College of Ireland passed their Final Examination and were registered Members of the R.C.V.S.:—

Mr. J. J. O'Neill	Mr. J. J. Mills
T. G. Browne	J. J. Pomeroy
M. P. Hatch	T. K. Reddin
J. J. Hegarty	C. M. Stewart
J. P. McNally	M. Twomey

The following passed their Third Examination:

Mr. J. Campbell	Mr. P. J. Hayes
S. O'Donel	H. Jewell
E. H. Wyly	M. J. Killelea
W. A. Buchanan	H. J. Lowe
W. G. Clarke	P. J. Mulcair
F. J. Daly	O. D. Neary
H. Dolan	J. O'Carroll
C. P. Fisher	W. P. Power
S. Flood	M. J. Ryan

The following passed their Second Examination:

Mr. J. J. English	Mr. W. H. Heaney
T. J. McDonald *	J. J. Mullaney †
J. A. Brew *	T. F. O'Connor
J. M. Cullhane	M. A. Sexton
T. A. M. Finch	T. F. Tunney †
J. J. Fitzsimons	M. A. Murphy

The following passed their First Examination:

Mr. J. J. Clune	Mr. W. Forde
P. J. Cooney	E. V. Kelly *
H. C. Evans	J. Malone
T. C. Hall	E. S. W. Peatt
J. J. M. Barry	J. A. Power
J. Bell	W. Reidy *
J. Brosnan *	W. J. M. Rouse *
J. J. Condon	C. B. Ryan
F. H. Doyle	W. L. Sinton
M. Farrelly	D. P. White

Marked thus † passed with First Class Honours.

" * " Second "

Dispute about a Mare.

Sheriff Macleod, in the Linlithgow Sheriff Court, heard proof in an action by William Braes, veterinary surgeon, Linlithgow, who sued James L. Meikle, farmer, Upper Bonnytown, Linlithgow, for the sum of £31 10s., being the price of a black mare sent by him to Mr. Meikle on trial on 28th November, 1912, and which, he maintained, was sold to Mr. Meikle on or about 11th December, 1912, the mare having died on 31st December, before the price was paid. The following interlocutor in the case has now been issued:—

Linlithgow, 11th June, 1913.—Finds, in fact, that (1) towards the end of November, 1912, the defender was on the lookout for a horse suited for his general farm work, and on the 28th of that month the pursuer sent the mare labelled, which was the pursuer's property, to the defender's stable in order that the defender might make trial of its suitability for that employment; (2) the mare remained in the defender's possession until its death on 31st December, 1912; (3) when the pursuer sent his mare to the defender's stable he set no time for the termination of the trial, but after an interval of time, coming to hear of another possible purchaser, he entered into communication with the defender with the view of getting an early definite reply from him as to the purchase or non-purchase of the mare; (4) the pursuer has failed to prove that he at any time arranged with or intimated to the defender any limit of time at the expiry of which, without return or without notice of rejection, the defender was to be regarded as the purchaser of the mare. The mare was not at any time in the possession of the defender under any condition as to limit of time for trial; (5) owing first to the condition of the weather, and latterly to the health of the mare, the defender had not, while the mare remained in his possession, a reasonable opportunity of making trial of its suitability for his requirements; (6) the defender never agreed to buy the mare. Before it took ill he was not satisfied as to its suitability. When it took ill he decided to wait till it got well again before

thinking further as to the prudence of making an agreement to buy. It never got well enough for that purpose; (7) the pursuer and the defender communicated with each other on the question of price, but never came to an agreement on that matter; (8) while the mare remained in the defender's possession the defender and his servants gave her both in health and in sickness all that watchful care which a prudent man would give to his horses; (9) the defender was in no way to blame either for the sickness or the death of the mare. Finds in law (1) that there was not completed sale of the mare; and (2) that the pursuer is not entitled to any decree against the defenders there-after assuages the defender from the conclusions of the initial writ; finds the defender entitled to expenses on lower scale, and remits the account thereof when lodged to the auditor to tax and to report.

(Signed) HECTOR MACLEOD.

In a "note" his lordship adds:—(a) No mare ever came nearer the selling point without actually touching it, and it has, therefore, been quite easy for each party honestly to persuade himself that its loss ought to fall on the other. At the same time, I have as clear a view as is possible for erring mortal that there was no completed sale. Let me just mention one or two points that seemed of special interest—(b) on the interesting controversy as to the course of events between the 9th and 13th December, I have a very distinct preference for the view presented by the defender as being an accurate one; (c) when the parties had the important talk about the price the mare was "off its feed" to the knowledge of the defender; (d) the pursuer's interest in the carcase is amply accounted for by his professional desire to verify his diagnosis; (e) I draw no inference from the fact that during the period of temporary convalescence the mare remained in the defender's stable. It is quite a good point for presentation in argument, but any inference from it would be unwise; (f) on Thursday, 16th December, the mare had so far recovered that the pursuer left her without any intention of returning to give her further medical attention. Elder (defender's second hand) was the man who had special charge of the mare. He was a man in whose watchful care of horses both the pursuer and the defender had, with excellent reason, the most perfect confidence. What he and Shanks and the defender did or did not do for the mare during the period between the 16th and 23rd December must be the subject of most careful scrutiny. On the other hand, they must not be judged by what happened later. My conclusions are set out in findings 8 and 9; (g) the defender made a point of seeing the pursuer on Monday, 23rd, to report to him the condition of the mare. The pursuer saw mare on 24th, and found her "far from well." She got gradually worse, and died on 31st December from "water on the chest"; (h) the mare was in perfect health when the pursuer sent her to the defender's stable on 28th November. (Intd.) H. M.

Alleged Cruelty at the Horse Show.

Arthur Hudson, a groom, living at Anlaby Road, Hull, was summoned before Mr. Mead at the West London Police Court on Wednesday, 9th inst., for cruelly ill-treating a horse at the Horse Show at Olympia. The defendant did not appear, but sent a letter in which he admitted he gave some mild ginger to a horse, and that he had seen hundreds of horses treated in the same way.

Mr. Oswald Hanson, who prosecuted for the Royal Society for the Prevention of Cruelty to Animals, stated that the operation which the defendant performed on the animal—a back Shetland mare—was known as "gingering," and was, he was afraid to say, somewhat common in cases where horses were to be exhibited for prizes or shows. The defendant was employed at the Horse Show at Olympia by a Mr. Llewellyn, and he

was seen by the Society's inspector to administer some chewed ginger to the horse before taking it into the ring.

Evidence having been given by an inspector of the Society and others,

Mr. Mead said it was a serious case, and adjourned the summons in order that the defendant should attend and also the owner of the horse.

On Wednesday, 16th, before Mr. Mead at West London Police Court on an adjourned summons.

Mr. Leslie Smith appeared to prosecute; and the defendant was represented by Mr. Bickmore, instructed by Mr. G. E. Mew.

Inspector Knight repeated the evidence he gave at the last hearing.

Alexander Piesse, M.R.C.V.S., described the effect of the ginger on the horse. In cross-examination, the witness admitted that ginger was administered medicinally, but in a different manner.

For the defence, Mr. Albert Howard Llewellyn, of the firm of Llewellyn and Co., Ltd., Walsall Saddlery Works, Walsall, said the mare belonged to him. It was a toy pony and was only entered in the show for the purpose of advertisement. The defendant was a very kind man, and witness felt sure he did not consider he was doing anything cruel to the pony.

In reply to Mr. Leslie Smith, the witness admitted he had sent a letter to the Secretary to the Society for the Prevention of Cruelty to Animals in which he asserted that far crueller things than "gingering" were done to horses at the Horse Show, and he instanced the use of sharp spurs and bits in the ring, and the practice of "nicking" under the tails of horses. He pointed out that "nicking" had a permanent effect on the animal.

The defendant, giving evidence on his own behalf, said that he only used the ginger medicinally, and he had known ginger to be used on hunters after a day's hunting. In reply to Mr. Leslie Smith, he denied that the ginger made the animal sprightly or restive.

W. F. Wright, M.R.C.V.S., of Malvern Road, Acton, said that it was a common practice to use ginger with horses, and he had used it hundreds of times. He failed to see that there was any cruelty in it.

Similar evidence was given by H. Mitton, M.R.C.V.S., of High Street, Brentford.

Mr. Mead fined the defendant 40s., with £2 4s. costs.

A similar summons was taken out against Ernest Knight, professional driver, of Church End Paddocks, Willesden, for ill-treating a horse at the Horse Show by administering an irritant.

Mr. Hanson said that this was a worse case than the former one, as the defendant gave the horse capsicum, which was essence of cayenne, and the animal must have been caused intense pain.

The defendant said he had no idea it was cruel to the horse, and it was to no interest of his to treat the horse in the way he did.

Mr. Mead, in passing a sentence of six weeks' imprisonment with hard labour, said that the defendant was guilty not only of gross cruelty, but of fraud upon the Horse Show authorities.—*The Times*.

The Dogs (Protection) Bill.

The consideration of this Bill, adjourned from Wednesday 9th, was continued on 16th inst.

Standing Committee A of the Commons having struck out the operative clause, which proposed to enact that it shall be unlawful to perform any experiment of a nature causing pain to any dog either with or without anaesthetics. The question was raised whether a Standing Committee could thus dispose of a measure the principle of which had presumably been affirmed by the House of Commons on second reading, and the Committee adjourned in order that the Chairman, Mr. Eugene Wason, might consult the Speaker on the point.

Amendments of a restrictive character had previously been carried against the promoters, and a further amendment was carried by 13 to 12 striking out the words "either with or." Sir F. Banbury, who was in charge of the Bill, was thereupon asked if he would withdraw it. He replied that he hoped to be able to induce the House of Commons to restore on the Report stage the words which the Committee had struck out.

Mr. ELLIS GRIFFITH supported an amendment, in the name of Sir P. Magnus, to add after "anaesthetics" the words "except on such certificate being given as is mentioned in the Cruelty to Animals Act, 1876, that the object of the experiment will be necessarily frustrated unless it be performed on a dog, and that no other animal is available for such experiment." The amendment was carried by 17 to 12.

The CHAIRMAN having put the question that the clause as amended stand part of the Bill, a division was challenged, with the result that the whole clause was struck out by 16 to 13.

Sir H. CRAIK asked what the promoters now intended to do, and Sir F. Banbury repeated that he would endeavour to get the clause put back.

The CHAIRMAN said it was evident that it was no use going on. He quoted the case of the Single School Areas Bill, where the Committee decided that they could not with advantage proceed further with the Bill; in that case that course was approved by the House.

Sir F. BANBURY, after submitting that the precedent cited was not on all fours with the present case, urged that it was a bad precedent that a Grand Committee with only between 20 and 30 members present should be able by a chance vote utterly to defeat a Bill the principle of which had been affirmed on second reading, and to deprive the House of Commons of the opportunity of expressing its opinion on the Report stage. It had, he said, been laid down that every Bill that went to a Grand Committee must have a Report stage.

Eventually the Committee adjourned till Wednesday next, it being understood that the Chairman, accompanied by Lord Hugh Cecil, would meanwhile consult the Speaker as to the proper procedure.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, July 11.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Lieut. R. L. L. Hart resigns his commission. Dated July 12.

July 15.

SPECIAL RESERVE OF OFFICERS.
ARMY VETERINARY CORPS.

F. Roche, late Cadet Royal Veterinary College of Ireland, O.T.C., to be Lieut. (on probation). Dated July 16.

OBITUARY.

JOHN LYONS, M.R.C.V.S., Mallow, Co. Cork.
Graduated, Edin. May, 1889.

Mr. Lyons died on July 3rd from syncope, following acute gastric colic. Aged 52 years.

EDWIN SUMMER, V.S., Flush, Heckmondwike, Yorks. died on 14th July from cancer of the liver. Aged 64 years.

The death occurred suddenly on Thursday, 10th inst. at East Sheen, Surrey, of Mr. RICHARD ATHERTON NORMAN POWYS, who had been for 37 years, and until his death, secretary of the Royal Veterinary College, Camden Town. Mr. Powys was in his 70th year, and had been in ill health for some time. The immediate cause of death was heart failure.

Mr. Powys had been obliged, owing to failing health, to resign his appointment about two months ago, but until his successor, Mr. Thomas C. Wight, Clerk to the Edinburgh and East of Scotland College of Agriculture, was able to take up his duties, Mr. Powys had carried on the work. He was at the office as lately as Monday, 7th inst. He had served under four or five Principals, including Prof. Simonds, Prof. Robertson, Sir George Brown, and the present chief, Sir John M'Fadyean.

Mr. Powys, who was greatly respected in the veterinary profession, with which he had been so long connected at Camden Town, was the only surviving son of the late Rev. the Hon. Atherton Legh Powys, rector of Tichmarsh, Northants, and a grandson of the second Lord Lilford. His wife, a daughter of Mr. H. Hussey, died eight years ago, leaving a son.

The funeral was on Saturday, 12th inst., at Kensal Green Cemetery.

The death is announced of Dr. Schindelka, Professor of Pathology and Therapeutics at the Veterinary School of Vienna. He was widely known in connection with diseases of the eye and skin in animals—being generally regarded, in fact, as the first living authority upon veterinary dermatology. He also devoted much attention to physical methods of diagnosis, and was the inventor of the first equine laryngoscope.

The deaths are also announced of Dr. Schlamp, formerly Professor of Pathology at the Veterinary School of Munich, and author of several works in wide vogue upon the Continent, and of Dr. Hatsukuma Tokishige, ordinary Professor of Animal Pathology at the University of Tokio, and Director of the Imperial Institute of Epizootic Diseases at Nishigahara, near Tokio.

TUBERCULOSIS ORDER, 1913—FEES.

Sir,

It may interest some of your readers to know that under the new Tuberculosis Order the Somerset County Council has fixed the fee of 5/- for each post-mortem. I am not aware that the veterinary inspectors were consulted on the matter, and I consider the fixing of such a fee an insult to the veterinary profession generally. Some of the other fees are equally bad.

It is quite time some move was made in the matter, and I should suggest a meeting of all the veterinary inspectors for the county to discuss the subject.—Yours truly,

Wincanton, July 15.

J. R. ROBINS.

ON SWINE FEVER.

Sir,

I am very pleased to now have the support of the whole world in this matter. The three great troubles with pigs are cecci, strongyli, and poisons. As to red soldier being diagnostic, I will bring dozens of cases to prove that pigs which have been poisoned invariably show this symptom. In snuffles arising from strongyles or cocci, one finds lesions in the lungs in some cases, in the bowels in others. Typhoid is practically wiped out if ever it did exist. Influenza or coccidiosis of pigs we know very little about. In fact as far as I can gather from laboratory work, we always harbour this pest. It is only when it reaches an infective stage through coughing or discharges that we infect each other. I again give my opinion that slaughter will never eradicate Swine Fever—if you accept the term in its proper reading.

GEO. UPRON.

VETERINARY ETIQUETTE.

Sir,

May I ask through your paper if it be "veterinary" etiquette for a M.R.C.V.S. when replying to a nameless advert. for "a qualified assistant" to give the names of his references before he has obtained the name of the nameless advertiser. I am aware that in ordinary society it is either ignorance or a breach to make use of anybody's name to a nameless person.—Yours truly, "PERPLEXED."

THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

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NEXT WEEK'S MEETINGS.

The first three days of next week are full of important meetings in London. On Monday afternoon, at the Holborn Restaurant, Veterinary Inspectors will meet and compare their experiences of the Tuberculosis Order, the discussion of which should be very valuable. The "National" meetings will follow upon Tuesday and Wednesday. All we need say of both gatherings to-day is that we hope the attendances will be worthy of the importance of the subjects to be discussed.

CLINICAL REPORTS.

To-day we publish several clinical reports which, taken together, well show how greatly practitioners may aid their fellows by recording their experiences. Mr. Tudor Hughes' case bears a two-fold lesson. It illustrates the danger of neglecting canker of the ear—an affection which, in its milder forms, is often too lightly regarded in dogs, and especially in cats—and it records the discovery of a parasite not generally regarded as common in England. In the latter connection it must be remembered that the *Linguatula teniodes* may exist, as in this case, without causing appreciable symptoms, that its *habitat* is seldom examined post-mortem, and that it may therefore be much more frequent in country dogs here than we imagine. This article, then, raises a problem, and so does another one. Mr. Maguire's "peculiar case" seems not to be a very rare one in the district in which it occurred—but what is it? It may possibly be an abortive form of black-quarter; but it is far from certain that it has anything to do with that disease at all. Mr. Maguire invites comments, and it will be very interesting if we find that other practitioners have seen similar cases.

But how much practitioners do see, and how little they record! Seven years ago, at the "National" meetings, Bang gave us an account of John's disease, and many men present recognised its clinical and post-mortem features as coming within their own experience. They had seen cases, had recognised their peculiarities, but had allowed them to go unrecorded. That example should have taught us the wisdom of recording peculiar cases, but it does not seem to have done so. No one knows how many such special conditions may exist, recognised by some clinicians, yet unmentioned in our literature. But we all know that while the bulk of practitioners keep their experiences to themselves, veterinary science will never advance as it should.

DISEASE OF MIDDLE EAR: LINGUATULA TENIODES IN NASAL CHAMBER OF AN OTTER HOUND.

Subject.—An otter hound, about six years old.

History.—This hound was suddenly taken ill, and noticed to be suffering from inco-ordination of movement, carrying the head lowered slightly towards the left side.

With treatment the staggering got better, but the inclination of the head became more pronounced, and circular movement towards the left side set in. There was an advanced condition of canker of the ears, worse in the left ear, which had been under treatment by the huntsman for some time.

As the carriage of the head became worse, and the circling movement more aggravated, and the prognosis from the first unfavourable, the hound was killed.

Post-mortem.—On splitting open the head a female specimen of *linguatula teniodes* was found in the right nasal chamber. The parasite was fully matured, about $3\frac{1}{2}$ inches long, and though the hound had been killed two days previously, was still alive and showed slight movement of the head and tail when placed in warm water. The external auditory meatus of the left side presented indications of long standing disease, being crammed with inspissated discharge, and the lining membrane much thickened. On opening the middle ear, a small quantity of sanguinulent effusion escaped, the membrane of the cavity was inflamed and the tympanum much thickened, with a layer of inspissated discharge adherent to its internal surface. There was discharge, with thickening of the external meatus present in the right ear, but the middle ear of that side was normal.

Remarks.—The head of this hound was opened to examine for suspected brain disease, and the finding of the *linguatula* was rather surprising, as there had been no clinical symptoms to indicate its presence, or any other nasal trouble, and there were no nasal lesions. How the hound became infected it is impossible to say, as there is no history ascertainable of his having been abroad, nor of nasal trouble in the pack. Briefly stated, the life history of the *linguatula* is as follows: (Neumann's Parasites, 2nd edition).

"The female *linguatula* deposits its ova in the nasal cavities of the dog, and they are expelled along with mucus. Falling upon pastures or forage—where they may retain life for several weeks—these ova, containing embryos, may be

swallowed by herbivora, when the shells are dissolved and the hooked embryos set at liberty in the intestine of the new host. The embryo bores its way through the intestine and reaches the organ in which it is to be encysted, where it is transformed into a motionless, rolled up pupa. Some time afterwards by a series of moultings the latter becomes a secondary larva, with elongated body divided into 80 or 90 segments with fine points on their posterior border, and is completely developed in six or seven months, measuring about $\frac{1}{4}$ inch. After a certain time these mature larvæ begin to move by means of their hooks and fine spines, and fall into the pleural or peritoneal cavity of their host, where many die, others may encyst themselves at some other point. If the viscera of the herbivorous host are swallowed by a dog these agamous larvæ reach the nasal cavities of their new host either by the nostrils, the guttural openings, or in ascending from the pharynx or œsophagus. Once the nasal cavities are reached, towards the third week in one moulting the larvæ lose their numerous spicules and have a smooth skin. At the same time the genital organs are completely developed, and they may copulate about the end of the 6th or 7th week, after which the females—which are much larger than the males at maturity—soon assume their definite size. Ovulation begins towards the sixth month of the parasite's nasal existence, and is continued for an undetermined period."

From the foregoing, it appears that the otter hound must have been affected about six months at least as the female parasite present was fully matured. No male parasite was discovered.

The condition of the middle ear, which was the cause that led to the hound's destruction, points to the danger of neglecting canker of the ear, and the necessity for proper treatment in the early stages.

H. TUDOR HUGHES, M.R.C.V.S., B.Sc.

"MILK FEVER"—SUGGESTION FOR PREVENTION.

We are from time to time reminded that one of the chief desires of the Editor of *The Record* is that the active members of our calling shall report, through its columns, results of actual experiences, so that by comparison something of practical utility may be added to our knowledge of the mysterious laws which regulate or govern Nature's operations as affecting the animals under our care. For many years past it has seemed strange to me that the simple method of management to prevent an attack of "milk fever," now so well put before us by Mr. Blackwell, has escaped the notice of our teachers and of those who have contributed to our literature on the subject, since my own experience is entirely in accord, viz., that if a cow is not milked before calving, or for 48 hours afterwards, there is *very little* probability of her developing "milk fever." Many years ago my attention was attracted to the fact of a client with a large herd of dairy cattle never having a case of milk fever, and I

found that he always adopted this system, and, when practicable, preferred the cows to calve in the field. Further inquiry and experience since entirely confirms the soundness of this course, and I cannot call to mind an instance of failure.

Popular works advise an opposite policy. The favourite farmer's book, "Clater's Cattle Doctor," recommends "the udder to be drawn regularly as soon as the milk appears." A more up-to-date work advises "milk cow a fortnight before calving, earlier if milk can be drawn, and empty bag twice daily." (Finlay Dun).

I hope other practitioners may be induced to give their opinion of the efficacy, or otherwise, of Mr. Blackwell's suggestion. The fixing of such a physiological fact is more useful in establishing the confidence of a client than many of the so often reported "discoveries" of those anti (something) serum, which upon trial land ourselves in difficulties and our patients in disaster.

THOS. A. HUBAND, F.R.C.V.S.

Kingsdown, Sevenoaks.

THE OPERATION FOR THE RELIEF OF ROARING.

Some time ago, with reference to the operation for the relief of roaring, I suggested, in addition to stripping the ventricle, the removal of a piece of mucous membrane from the outer aspect of the arytenoid of the affected side of the larynx.

Since then I have been afforded an opportunity of carrying out the suggestion on some confirmed roarers, and the result of the operation on two of them, ten weeks afterwards, can now be reported.

Both horses made a distinct noise on the slightest exertion, and grunted badly. Now one of them makes no noise, and the other is very much improved. Both horses were useless before the operation, but they have been returned to work and are now being used as troopers. But to my mind the most remarkable result is that neither horse can now be made to grunt either by means of the stick or by exercising him on three legs, one fore leg being fixed up, Rarey fashion.

I had the advantage of hearing the horses before and after the operation.

J. J. O'CONNOR, M.R.C.V.S.

Royal Veterinary College, Dublin.

A PECULIAR CASE.

Perhaps the following peculiar case may be of interest to readers of *The Record*.

The subject was an aged shorthorn cow, due to calve in a week.

The first symptom that appeared was lameness of the right fore-foot. Within an hour of the lameness appearing, an emphysematous swelling had appeared up the leg as far as the withers, and in a very short time this swelling had extended along the back as far as the lumbar region. The animal showed great depression, was off food, the

pulse was increased in frequency but was strong, the temperature raised two degrees.

On first being told of the symptoms, I diagnosed black quarter, but the owner told me that the same animal had suffered from a similar complaint two years ago, and that he had cured her by scarifying the skin and rubbing into the incisions a mixture composed of crushed garlic and gunpowder. I also gathered from him that several cattle in the same neighbourhood had suffered from a similar complaint, many of which did not respond to the above treatment, and succumbed within thirty-six hours.

On hearing this account, my diagnosis of black quarter seemed to be wrong, and I proceeded with the following treatment: I scarified the skin over the swelling and on entering the subcutis I found it contained a colourless frothy serum, very much resembling that seen in black quarter, but it was devoid of odour. Into these incisions I rubbed pure carbolic acid, and gave the cow a stimulant draught.

Within eight hours the swellings had disappeared and the animal seemed in normal health, and has remained so since, it being now three days since I was called in.

I am at a total loss to know what was the nature or cause of condition. I might have stated that nowhere on the animal's body could I find a wound. I should very much like to know if any practitioner could explain the nature of the disease, or would give their experience of such cases if they have met with any.

L. C. MAGUIRE, M.R.C.V.S.

Granard.

ARE REGISTERED EXISTING VETERINARY PRACTITIONERS VETERINARY SURGEONS?

At the meeting of the Southern Counties Veterinary Society, held on June 26th last, some of those present in speaking on the "Tuberculosis Order of 1913" seemed grieved that "existing veterinary practitioners" should be appointed veterinary inspectors under the Order.

I do not know if their appointment is legal, as they are neither "veterinary surgeons" nor on the "Register of Veterinary Surgeons."

In Section 3 of the Veterinary Surgeons Act, 1881, it definitely states that "The Register of Members of the Royal College of Veterinary Surgeons shall be styled the Register of Veterinary Surgeons."

In Section 15, Clause 1, of the same Act it is enacted that those who had "practised veterinary surgery" five years before the passing of that Act, and were not on the "Register of Veterinary Surgeons" were entitled to be placed on a separate Register under the heading of "Existing Practitioners."

In Section 17, Clause 1, it says those who are for the time being on the Register of Veterinary Surgeons or held the veterinary certificate of the H. and A.S.S. at the time of the passing of the Act,

1881, were entitled to use any name, title, etc., stating they were veterinary surgeons, etc.; and Clause 2 of the same section gave them power to recover fees in a Court of Law.

According to the Charter of 1814, Members of the Royal College of Veterinary Surgeons are *exclusively* entitled to "be individually known and distinguished by the name or title of veterinary surgeons," and the veterinary art as practised by the Members of the Royal College of Veterinary Surgeons is to be "deemed and taken to be and recognised as a profession."

Nothing in the Acts and Charters give the "Existing Veterinary Practitioners" on the separate Register, known as the "Register of Existing Practitioners," the right to term themselves veterinary surgeons, members of the veterinary profession, or to recover fees in a Court of Law.

Not being on the Register of Veterinary Surgeons and therefore not having the privileges or power of veterinary surgeons, they have not the responsibilities and are not subject to the disciplinary bye-laws of the Royal College of Veterinary Surgeons as are the members of the veterinary profession. In fact the R.C.V.S. has no control over them.

SCRUTATOR.

ABSTRACTS FROM FOREIGN JOURNALS.

AN ANGIO-FIBROMA OF THE CHORION IN A BITCH.

Sparapani records (*Il Nuovo Ercolani*) the case of a King Charles bitch, which aborted with very violent labour pains. The foetus expelled with its adnexa was about five weeks old. The foetal envelopes weighed altogether 75 grammes (nearly 2 2/3rd oz.), and contained a larger quantity of amniotic fluid than was normal. Externally, upon the chorion, about 4/5ths of an inch from the right edge of the placental ring, was a kidney-shaped, reddish-yellow, lobulated tumour the size of a walnut and weighing 38 grammes (nearly 1 1/3 oz.)

The upper free surface of this tumour was turned towards the wall of the uterus, and showed many furrows of varying depth, while the lower surface was only loosely connected with the chorion, and could easily be detached from it. The tumour was soft in consistence; and its sectional surface showed two distinct zones, a cortical and a central. Of these the cortical zone was rather the darker and firmer, while the central zone was lighter in colour and softer. About the periphery, and in places also at the centre, were openings of bloodvessels which were visible to the naked eye.

Microscopically, the most striking feature of the tumour was the great number of small vessels, for the most part only coated with an endothelial layer, and altogether giving the tissue a sieve-like appearance. In the peripheral part of the tumour there were also larger vessels resembling small arteries or veins, with muscular and connective tissue in their walls, and capillaries grouped in a radiating arrangement around them. The ground substance of the tumour consisted of connective

tissue elements in different stages of development—large roundish or spindle-shaped cells, and numerous fibrillæ. The fibrillæ were especially prominent in the centre of the tumour, where there were also some groups of plain muscular fibres.

Sparapani thinks that in consequence of its position between the chorion and the uterine wall, the tumour had probably acted as a foreign body, and successively induced hydramnion and abortion. —(*Münchener Tier. Woch.*)

W. R. C.

THE VETERINARY PROFESSION AND THE ANIMALS ANÆSTHETICS BILL.*

By FREDERICK HOBDAY, F.R.C.V.S., F.R.S.E.,
Kensington, W.

There is much more than appears on the surface in the subject of the compulsory use, by law, of anæsthetics in operations upon animals, and I am bringing it before you to-night in order that the expression of opinion may be obtained from members of the Central Association as representing the largest, and one of the most influential bodies of practising veterinary surgeons in the British Empire. It is a subject of such vital importance to us, that if passed, this Bill will have a revolutionary effect in more ways than one, and I cannot understand the lay promoters of the Bill attempting such a vast and important subject without first seeking advice from a large number of members of the profession who are in daily active practice, and who are in a position to point out the practical difficulties which confront a man who is told that he *must* use such-and-such an anæsthetic when performing such-and-such an operation without being allowed to use any discretion whatever.

As at first put forward, the clauses of the Bill were so obviously absurd and unworkable that it was quite evident that no veterinary surgeon of practical experience could ever have been consulted, and had it become law it would have inflicted cruel hardships upon animal, operator, and owner alike. In fact it savoured a little, unintentionally, I am sure, of being an insult to the humanity and intelligence of the members of the veterinary profession.

Gentlemen, we of the veterinary profession do not pose as sentimental faddists, but we give way to no man, and to no body of men, in our desire to alleviate the sufferings of animals. It is our life's calling, and even if we did not do it from this point of view we should always do it from grounds of convenience, for I am sure I am echoing the views of everyone present when I say that it is much nicer to operate upon a quiet patient than upon a shrieking, groaning, and struggling one.

I am going to emphasise the statement that we are all in absolute accord in our desire to use an anæsthetic for every operation; it is when we come to the practical application of the idea that we find the difficulties arise. Animals are not human beings, their consent is not asked as to whether such-and-such an operation shall, or shall not, be performed, and the two chief reasons operations are performed upon them are those of necessity—to benefit the patients by saving or prolonging their lives, or to enable them to be of service to man, as, for example, operations such as castration, ovariotomy, etc. In each case operative interference becomes a necessity if their lives are to be spared—in the first it is obvious, for if we keep animals, whether for work or

pleasure, the responsibility of looking after their well-being is a duty which we must not shirk; and as regards the second, the operations which increase their utility for the service of man; that, too, is obvious to all practical minds without going into specific details. Granted these two points of view, the idea comes into one's mind as to the best way of getting them carried out *with safety to the patient*. Therein lies the rub! With safety to the patient—for of what benefit is it to the animal if we operate on him painlessly, but kill him in the process.

To us as veterinary surgeons, the owners and general public look to lead the way in matters pertaining to the surgery of animals, and not only do they look to us to operate humanely, but they also look to us to operate safely and to restore again to them their animals alive. The animal is not grateful if it dies under the anæsthetic, and the owner is (to put it mildly) certainly not pleased, and herein lies the sum and gist of the whole matter. Our knowledge of anæsthetics is not so complete that we can say their universal application by rule of thumb at the command of the Law is without danger to life. In fact, to put it briefly "anæsthetics are not fool-proof," neither are they in human practice. To use them we must have discretionary powers, and as it is only by the qualified and educated veterinary surgeon that such powers can ever be properly understood in their finest sense, it is only to them that such discretionary power should be granted.

We are, unluckily, a small profession, and unfortunately, too, we are a modest one, but in questions pertaining to the surgical and medical treatment of animals it behoves us to assert our right to be first, and we fail in our duty to the public, as well as to ourselves, if we do not make ourselves heard, and heard authoritatively too. We are foolish if, when we can help it, we allow ourselves to be dictated to on subjects particularly our own, and subjects to which we devote our lives and make a special study of.

Let us take the Veterinary Operations (Anæsthetics) Bill in theory and dissect out its application in actual practice. As at first drafted, no doubt it meant well but as a practicable measure it was an absurdity. For example, we were to be compelled to use chloroform for any operation mentioned in the first Schedule of the Act when the horse was the subject, and this included castration, extraction of molar teeth, trephining, and enucleation of the eyeball—in all of which such compulsion was inadvisable without discretion being left to the operator. Trephining and nucleation of the eyeball are each done as a routine measure with cocaine and adrenalin, or some other local anæsthetic, and the question of castration, put in the list merely as castration, has caused quite a lot of opposition.

At the present time thousands of horses are castrated in the standing posture, and when done by an expert, if the operation passes off without a hitch, the whole thing takes but a very few minutes, and the animal usually goes straight to his manger immediately afterwards and feeds. Whether the horse, if he could be consulted, would prefer to be thrown down and go through all the fright of this and of being chloroformed, a process averaging fifteen or twenty minutes, or whether he would prefer to be operated upon in the standing posture, and have the whole thing finished with in less than five minutes, is a matter of question.

At any rate the promoters of the Bill have recognised some difficulty here, for they have now added paragraph (b) which reads: "A horse two years old and over shall not be subjected to the operation of castration unless during the whole of the operation he is under the influence of some general anæsthetic of sufficient power to prevent him from feeling pain," whilst the paragraph

* Read at the meeting of the Central Veterinary Society, Thursday, July 3rd.

relating to bulls and pigs over six months old has been deleted altogether.

I think the cat should also be included in Paragraph 2 (a) as well as the dog, for thousands of them are operated upon every year, both for castration and ovariectomy.

The question of chloroform for the bull and pig has at present been withdrawn, wisely too, until we can find a definite and safe anaesthetic for these animals. It is not merely a question of fee, but a question also of safety, and in connection with this latter point it is interesting to note that the term "general anaesthetic" includes chloral hydrate, and in the case of the dog, morphine.

The first Schedule as it stands now includes—

Radical operation for quittor.

Operation for stripping the sole.

Radical operation for poll-evil.

Radical operation for fistulous withers.

Line firing.

The word "Radical" in front of the operations for quittor, poll-evil, and fistulous withers has given considerable latitude, although what it really means I do not quite understand, and no one will dispute that a general anaesthetic should always be used for each of them; but over the question of "line firing" I expect to hear some argument, as this covers such a diversity of things, and may include anything from the few lines passed over a curb to the space covered when doing a couple of sprained tendons.

To be compelled to use a "general" anaesthetic to fire a small curb would be an unnecessary danger to the patient, and this heading certainly requires modification.

Second Schedule. The second Schedule includes castration and ovariectomy, and when the Bill was first drafted included horses of all ages. As I said a few moments ago, it has been now modified as follows:—

"A horse two years and over shall not be subjected to the operation of castration unless during the whole of the operation he is under the influence of some general anaesthetic of sufficient power to prevent him from feeling pain."

If the standing operation is to be at all considered, then this clause will have to be reconsidered so as to give horses three or six months longer—for so many are born in February or March, and the owner prefers to wait until the weather is favourable, in April or May before castrating—so that these colts would be a month or two over the exact age, and would have in future to be chloroformed for the operation if the exact age of two years was stipulated.

The chief points which we, as veterinarians, have to think about are that if the Bill becomes law we shall be compelled to become expert anaesthetists, and we must be prepared for this. That we all desire to save our patients from pain is acknowledged, and it behoves our Colleges to see that the present-day student is well equipped with practical, as well as theoretical, knowledge upon this point.

As regards the passing of the Bill, I think that its supporters mean to go ahead and get it through, and perhaps it will here be of interest if I read an extract from a letter which I received some months ago from one of the chief promoters of the Bill.

"I drafted the Bill last year with the help of various horse owners, and local veterinary advice, rather with a view to obtaining the expression of opinion on this subject than in the hope of its passing this session. I have now drafted certain amendments which I think meet the criticisms urged in your article, and which I hope may also satisfy the opposition of agriculturists. I need hardly say that I shall be very glad to consider any further suggestions which you may care to make. I may mention that I am altering the title of the Bill to discourage the common criticism of agriculturists

that it is promoted by the veterinary profession in order to injure the unqualified operator. I need hardly say that I have no desire to suggest that the veterinary profession have not on the whole done everything in their power to ensure that operations should be performed under humane conditions. I know, however, that in many cases by going against the prejudice of farmers in the matter of anaesthetics they ensure that unqualified and less squeamish operators are called in on future occasions. You will notice that by the insertion of the word 'radical' to qualify certain operations in the first Schedule I leave the power of judging the necessity for anaesthetics to the operators themselves."

And from a second letter more recently received I extract the following:—

"I fear it will be impossible for me to take advantage of your kind invitation to attend the meeting of the Central Veterinary Society next Thursday, as I shall almost certainly not be in London. If, however, my plans were unexpectedly to change I would let you know, and perhaps you will allow me still to come. Meanwhile I had better let you know the present position of the Bill, so that you may convey any information on the subject which you think useful to the meeting."

The Bill is at present being blocked by several Nationalist Members at the instance of various Associations of farmers in Ireland, who object to what they consider to be an interference with their personal liberty. I hope, however, that with patience the difficulty may be got over, especially in view of the very encouraging resolutions which have been passed in favour of the Bill by various Agricultural Societies in Great Britain.

I am very sorry not to be able to come and meet members of the veterinary profession, so as to discuss this subject, as I should like to have had the opportunity of explaining how far it is from my purpose that the Bill should cast any imputation whatever on their anxiety to avoid any unnecessary infliction of pain on animals. The real difficulty of the present position seems to be that so long as an operation is not performed for the purposes of research, but merely for the convenience of the animal's owner, that owner is in a position to employ any unskilled person and is allowed to inflict any suffering he thinks fit upon an animal. This unchecked power in the hands of inhuman owners necessarily ties the hands of the veterinary profession. They must often feel that if when called in they insist on using an anaesthetic, the only result will be that on the next occasion the owner will have recourse to someone with less skill and less scruple.

It is no reflection on the veterinary profession to recognise that, under the existing law they are often bound to feel that it is better to yield to the owner's wish and perform an operation without an anaesthetic, rather than to encourage that owner to have recourse to an unskilled man who would inflict very much more suffering.

I should very much like to have been able to attend the meeting to explain this matter, and to pay my humble tribute to the humanity of the veterinary profession as a whole.

I quite see the force of your suggestion to provide for a certain discretion being allowed to the veterinary surgeon, where, owing to the physical conditions of the patient, an anaesthetic would be dangerous. This matter and also the suggested additions to the schedules can of course easily be dealt with in Committee."

I may say here that I had regrets expressed by two other prominent supporters of the Bill that, owing to important Parliamentary duties they were prevented from coming here this evening, and I am sure that in

all these gentlemen we have men who are good friends to our profession, men who are not bigots, and who are open to receive suggestions, and it is with a view to obtaining these suggestions that I bring the subject before you this evening.

That the Bill will go through successfully is, I think you will agree, the wish of the whole profession, but we must not be tied up. We must have proper discretion left to us, and to us alone as qualified men, as to when and what anaesthetic to employ for our patients and our operations, so long as it is an effectual one.

VETERINARY MEDICAL ASSOCIATION OF IRELAND.

A quarterly meeting was held on Wednesday evening, 28th May, in the Gresham Hotel, Dublin. The President, Mr. P. J. Howard, presided. There were present: Messrs. McKenny, Kerr, Gray, Richardson, Taylor, McCann, Dodd, Magee, Ebbitt, Norris, Holland, Purcell, Jarratt, Carr, Wilkinson, Moffett, Hamilton, Watson, Thompson, Heney, Mahony, Hare, and Profs. Craig and O'Connor.

The CHAIRMAN: As there is a large amount of business to be done perhaps some gentleman would move that the minutes of the last meeting, which have been printed and circulated, be taken as read.

Mr. WATSON: I propose that the minutes as printed and circulated be taken as read.

Mr. THOMPSON seconded the motion which was agreed to, and the Chairman then signed the minutes.

New Members. Messrs. P. A. CARROLL, Carlow, and E. W. WILSON, Virginia, were elected members of the Association, on proposition of Prof. Craig, seconded by Prof. O'Connor.

Mr. D. S. PRENTICE, Chief Inspector of the Department of Agriculture; proposed by Mr. Reavy, seconded by Mr. Holland.

Mr. B. H. MELLON, proposed by Mr. McKenny, seconded by Prof. O'Connor.

Prof. O'CONNOR said apologies had been received from Messrs. Small, Reavy, and Elkins. There was a verbal apology from Col. Moore, and Mr. Hamilton had written stating that he hoped to be present at the meeting.

Vote of Condolence. Mr. McKENNY: Since we last met you are all aware that one of the oldest and most respected members of our Association has died—Col. Steele, and I think we should send a letter of condolence to his relatives. I move that a letter be written to his daughter expressing the regret with which the members of this Association learned of the death of Col. Steele.

Mr. FINLAY KERR seconded the motion.

The CHAIRMAN: Col. Steele was a member of this Association, and I frequently saw him representing this country at meetings out of Ireland, always with the greatest possible credit to the profession in Ireland.

The proposition was passed *nem con.*

The SECRETARY read the minutes of the last Council meeting:—

A meeting was held in the Royal Veterinary College on May 2nd. There were present: Mr. J. B. Dunlop in the chair; Messrs. Wilkinson, Norris, Magee, R. H. Lambert, Watson, Reavy, and Professors Craig and O'Connor.

The minutes of the Council meeting in January were read, confirmed, and signed. Apologies for non-attendance were received from the President, Messrs. Thompson, Holland and Chambers.

It was unanimously recommended that Mr. J. B. Dunlop should be nominated as co-trustee with Mr. McKenny, in the room of Mr. Hedley, deceased.

The following candidates were proposed for membership: Messrs. E. Wilson, Virginia, and P. A. Carroll, Carlow, proposed by Prof. Craig and seconded by Prof. O'Connor; D. Prentice, D.A.T.I., proposed by Mr. Holland, seconded by Mr. Reavy; B. H. Mellon, D.A.T.I. proposed by Mr. McKenny, seconded by Prof. O'Connor.

It was left to the Hon. Sec. and Mr. Watson to arrange the date of the next general meeting, and resolved that Mr. Howard should be asked to read a paper.

The following accounts were passed for payment—Messrs. H. & W. Brown for reprints, 7s. 6d.; reporter for special meeting, £2 2s.; Mr. A. Watson for expenses *re* deputation to D.A.T.I., 13s. 6d.; total, £3 3s.

Mr. HENY: Mr. Chairman, I beg to offer an apology to you and to the members of the Council for not having attended on that occasion. I was detained and could not get to the meeting until too late.

Mr. CARR: Is it usual for the minutes of the Council meeting to be read and signed at a general meeting of the Association? I understood that the duty of the Council was to make recommendations to the general meeting.

The CHAIRMAN: It has been usually done in the past. The object in having them read is that if there is any objection to the work of the Council the matter may be discussed.

Mr. CARR: I understand that the duty of the Council is to send out recommendations. It would not be my place, not being a member of the Council, to object to the minutes which are merely a record of what took place at the meeting being signed.

The CHAIRMAN: Do you propose any other method or recommend a different procedure?

Mr. CARR: I only raised the point on principle.

Mr. McKENNY: Mr. Carr is, I think, perfectly right as to the duty of the Council.

The CHAIRMAN: I am the culprit, and I must plead guilty to a very slight error in signing the minutes of the Council.

The minutes were approved.

THE LATE MR. M. HEDLEY.

Mr. McKENNY: Gentlemen, at the Council meeting shortly after the death of our very great friend, Mr. Matthew Hedley, it was omitted to send a letter of condolence to his family. It is, I think, quite unnecessary for me to say anything relative to the very able manner and the kind manner in which the late Mr. M. Hedley acted towards the members of this Association, and, indeed, towards the profession. His whole heart seemed to be interested in the work of this Association, and I think it would be superfluous for me to say anything further. I propose that we send a letter of condolence to his wife.

Mr. FINLAY KERR seconded the motion.

The CHAIRMAN: I am quite sure it is unnecessary for me to add anything to what has been expressed so ably by Mr. McKenny. We all know that for years Mr. Hedley identified himself with everything that tended to benefit the profession, and our Association in particular. We regret to be sending a vote of condolence to his family. He is a loss to the profession and to the Association. The motion was passed.

BENEVOLENT FUND.

The CHAIRMAN: I think the majority of you are aware that in connection with the Victoria Veterinary Benevolent Fund a committee has been appointed for Ireland to consider and report on any cases that would be brought under notice in connection with its Benevolent Fund. At the present time there are several persons in Ireland receiving aid from this Fund, and, unfortunately, there are not perhaps as many subscribers in Ireland as there should be under the circum-

stances. It is at least one thing to the credit of what I may say is a purely English society, that for years they have been giving aid to the families of deceased veterinary surgeons in Ireland, although the Society had practically no subscribers in this country, and was receiving no help from members of the veterinary profession in Ireland. I hope the members here will consider the matter, and if they are not already subscribers that they will give earnest consideration to the advisability of joining or supporting the fund, as those who are able to afford help to-day may want it to-morrow. The report for 1912 shows "that there was an increase of 100 members for 1912." Well, I am sure some of that was the result of the meeting held here in Ireland, at which a considerable number of members of the profession became subscribers. There was an increase of £24 7s. 4d. in the amount granted in relief as compared with the previous year, and the report also gives the names of the persons in Ireland who are receiving help, some of them as much as 10s. a week from this Fund. It is unnecessary for me to go into the matter further than to appeal to you to consider this question. It is worth while to support a fund which treats our members so well. Any small subscription will be acknowledged, and I am sure they will be grateful for any help.

Professor O'CONNOR: As a member of the Committee appointed to consider cases in Ireland, I may say that it is a most deserving fund, and that there are several people, distressed members of the profession or relatives of deceased members, who are in receipt of aid from it. It is really necessary that something should be done to help them. I think every one should become a subscriber. I frequently have letters from Mr. Shipley, Secretary to the Fund, telling me how much good it is doing, and how many people there are still in need of assistance. About £52 a year is spent in Ireland in helping the relatives of deceased members of the profession, and therefore it is necessary that the members of the profession in this country should do all in their power to help the Fund.

Mr. HENRY: Mr. President, allow me to say that this matter should be taken up heartily by our Association. For years there was hardly a subscriber in Ireland to the Fund which has helped the families of Irish practitioners, and I am sorry to say that there are members of our Association here present to-night who have not subscribed to the Fund. I am sure they would never miss the small annual subscription. I consider that the charity so deserving that I intend to double my subscription this year. (Hear, hear.) I say that the members of this Association have not supported this fund in the past, and as it is a work that they should support I appeal to them now to take up the matter. There are very few of us who could not afford a subscription of 10s. 6d., and as has been said already, those who are able to give help to-day may want it to-morrow. I think that perhaps the best way to help would be to ask one member in each county to make himself responsible for the collection of a subscription from each practising member in that county, and get at least 10s. 6d. from them towards the work of the Society. Since the meeting held in Dublin I feel that we in Ireland have not done our share, and it is for us to show that we are worthy of the confidence placed in us, and the support given to the widows and dependents of members of our profession, and to do something to help this institution which has done so much for us (Hear, hear.)

REPORT OF DEPUTATION TO D.A.T.I. RE ROYAL VETERINARY COLLEGE OF IRELAND.

On the 22nd April Mr. T. P. Gill, accompanied by Professor Campbell, met the deputation at 4 Upper Merrion Street. The members of the deputation were

Messrs. P. J. Howard, James McKenny, P. D. Reavy, L. M. Magee, J. A. Thompson, J. H. Carr, J. Holland, and A. Watson. Mr. D. S. Prentice, Chief Veterinary Inspector, attended in his official capacity on Mr. T. P. Gill.

Mr. Howard introduced the deputation, and dealt with the following subjects:—

1. The position of private practitioners, and the question of the staff of the College entering into competition by practising, and to obviate this to urge that the entire staff of professors in the College be retained as whole-time officers, and that their position be pensionable.
2. Veterinary dispensaries and the question of their extension.
3. To urge the maintenance of the uniportal system of entrance to the profession as at present exists.
4. The standard of education and curriculum at the College for private practitioners, and also its relation to appointments in the Army, the Department of Agriculture and Technical Instruction for Ireland, the Colonies, etc., etc.
5. The students in the College, and the question of State scholarships.
6. That the pathological and bacteriological laboratories be available to practitioners for opinion and advice.
7. Direct representation of the profession on the Advisory Committee.

Some free discussion of the subjects took place, and Mr. Gill assured the deputation that they would not admit of the College staff coming out to interfere with the functions of private practitioners unnecessarily, and also told us the Department frequently refused their sanction to the members of the present staff appearing in cases of litigation, and they would treat the College staff on the same lines.

Mr. T. P. Gill could not undertake to take any action as to the uniportal system, and suggested that the matter was one for the profession itself. He promised to give direct representation on the Advisory Committee.

The statements of the Secretary of the Department were highly satisfactory as to the intense interest they were taking in the profession, and also the broad comprehensive lines upon which they purposed working the College. The staff, he promised, would be treated liberally, and the literature and practice of the profession would receive unremitting attention.

Having thanked Mr. Gill and Prof. Campbell for their kind reception and encouraging remarks the deputation withdrew.

A. WATSON, hon. sec. to Deputation.

The CHAIRMAN: Gentlemen, you have heard this report of the work done by the deputation which was appointed at a general meeting representative of the profession in Ireland. Mr. Watson has told you what was done by the deputation. It is at least pleasing that the deputation was received very cordially by Mr. Gill and the representatives of the Department and that our recommendations in general were approved by the Department and the Department undertook to satisfy us in every possible manner. I don't think it is necessary to go into more detail, as Mr. Watson's report shows that the result of the visit to the Department was very satisfactory from our point of view.

Mr. MOFFETT: Have you a more detailed account, Mr. President?

The CHAIRMAN: I have merely the heads of the subjects discussed, and I have a few notes of the actual words I used in putting some of the suggestions before the heads of the Department. Mr. Watson's report, however, covers the whole ground.

Mr. MAGEE: There was a reporter present at the interview, and the Department have a note of all that occurred. I suppose if anyone wanted the report and asked the Department for it they would get it.

The CHAIRMAN: I don't know about that.

Mr. HOLLAND: As one who was present I think Mr. Watson has described very lucidly what took place on the occasion, and deserves great credit for the manner in which he has presented the report.

Mr. MOFFETT: Mr. Chairman, have you fuller details? I think the meeting should be put in possession of the full facts.

The CHAIRMAN: If it is the wish of the meeting I will give what facts I have. Mr. Russell was asked to receive a deputation, but he replied that he could not meet it until Whitsuntide which was several weeks away. That would have been too late, so we got Mr. Gill to receive a deputation representing the profession generally, and we put our view before him regarding the taking over of the College. The deputation met half-an-hour before going to the Department, and we had a discussion amongst ourselves with reference to certain matters that should be put forward for consideration. First of all we put, of course, the question of representation: that the deputation as coming from this Association considered that the profession should be adequately represented on the governing body of the College. We expressed approval of the taking over of the College by the Department, and we congratulated them on being the first body in the United Kingdom to establish a State-aided College. Then we thanked the Secretary, Mr. T. P. Gill, for having, at great personal inconvenience, received the deputation. We asked that the College be devoted to the turning out of highly trained students, and that the veterinary staff be whole time officers and that they should not be allowed to take private practice. We hoped that they would faithfully adhere to the arrangement by which the College was not to become a practising body and so secure the co-operation of the profession, and that the staff should not be encouraged to give evidence in cases of litigation.

You may remember that one of the grievances of long standing was that in the Veterinary College we had practically no say at all. Now we hope—at least, the Department have promised that we will have adequate representation in future, and that it will now be our own right to nominate members of our own on the Advisory Council.

There was the question of co-operation and encouragement of such co-operation by giving free treatment and keep to cases of poor people sent forward by private practitioners; and that special terms be given for special cases; and that the laboratory be at the disposal of the veterinary profession for opinion and advice.

The Department should further encourage the local practitioners by giving them some of the work at present done by special men from the Department.

That the College should not be available for study for other than the diplomates of the R.C.V.S.

That the staff and working of the Veterinary College should be distinct from the administrative branch of the Veterinary Department, on which the success of the live stock industry of the country so much depends.

All our suggestions were favourably received, and I think we may feel satisfied that things will work out to the best advantage.

Mr. McKENNY: As one of the deputation that waited on the Secretary of the Department of Agriculture and Technical Instruction for Ireland (Mr. Gill), I may say that we considered the interview most satisfactory, but, although Mr. Watson, under the circumstances he has told you of, has given an excellent report of it, I consider that our President, who has a verbatim written statement of it, should give it to you for publication;

indeed, so pleased was I with the promises made by Mr. Gill, and all he said relative to the manner in which the College would be managed, that I said to him at the meeting that what he had said should be written in letters of gold.

Mr. NORRIS: I propose that both reports be incorporated in the minutes.

Mr. MOFFETT: I think the President's is the only one which need be embodied in the minutes.

The CHAIRMAN: I daresay Mr. Watson's report gives all the information that is necessary, and his report can be included.

PRESIDENTIAL.

The PRESIDENT: In connection with the deputation, several members put themselves very much about to be present, and I think they did a good day's work for the profession when they went on that deputation. It is usual at this meeting to have a Presidential address, but on this occasion I shall not trespass on your time with any such thing, because matters of great importance are to be considered. I take this opportunity of thanking you for again electing me President, an honour which I esteem very highly. I only hope that we shall be able to look back to a good year's work. The time we are passing through, 1912-13, will always mark a very important period in the history of our Association and the profession here in Ireland. Last year we had that terrible outbreak of foot-and-mouth disease in this country, and it is at least creditable to the veterinary profession in Ireland that they were equal to the occasion. Many country practitioners must have been called upon to report on cases which was sent for official report as cases of foot-and-mouth disease. I think there is not one single case on record in which the diagnosis was not right. That, I think, is a credit to the country practitioners. The year 1913 marks a very important period, inasmuch as we now have considered the question of taking over of the Veterinary College of Ireland by the Department of Agriculture. That will lead to very great changes in connection with the College. Perhaps one of the greatest will be that our profession will have something to say in the guidance of the College. A long standing grievance has been removed, and it is to be hoped that the gentlemen nominated as our representatives will attend when we ask them, and do their part in making the working of the College a success. I won't further trouble you than to say that the Association deserves all the help you can give it, for it is the means by which you can always make sure of remedying grievances and removing some of the disabilities under which we have to work.

THE TUBERCULOSIS ORDER.

The next subject for consideration is the new Tuberculosis Order. It has been put in force a month ago in England, and the profession there have taken steps to see that the working of the Order will remain entirely in the hands of the profession in England. I foresee that in this country we may have difficulties with the local authorities in the way of remuneration. Of course there is a different state of affairs in Ireland to that which prevails in England. You have districts in which there are inspectors under the Contagious Diseases of Animals Act for each district. It is a very moot question whether the salary received as Inspector under that Act may not render a man liable to take over any work under that Act. Personally, I think this is a matter which the Association will have to consider in detail, because it will be vital to the interests of the profession. If you have one set of regulations in one country and a different set in another it would be far from satisfactory. I think we ought to approach the Department of Agriculture and ask them to recommend

a scale of fees for work under the new Order to each local authority. We all know that there are some County Councils which are not inclined to treat their officers well in the matter of remuneration. If we could get a uniform scale adopted, it would be a step in the right direction, and would be better for the community as well as for the profession. It would certainly be far better than if each member were left to make the best bargain he could with the local authority. Mr. Watson, will you put the matter before the meeting for consideration?

MR. WATSON: I have got rather tired speaking about this Order, for I had four or five hours of it to-day at the Department. There was a question I asked about Article 2 of the Order

Notice of Disease.

2—(1.) Every person having in his possession or under his charge

(i) any cow which is, or appears to be, suffering from tuberculosis of the udder, indurated udder, or other chronic disease of the udder; or

(ii) any bovine animal which is, or appears to be, suffering from tuberculosis with emaciation shall without avoidable delay give information of the fact to a constable of the police force for the area within the animal is, and the constable shall transmit the information

(a) to the Local Authority, who, if not themselves the Sanitary Authority, shall inform that Authority; and

(b) to the Department.

(2) The person in possession or having charge of the animal shall forthwith take such steps as are necessary to secure compliance with Article 9 (*Precautions to be adopted with respect to Milk, etc*) and Article 10 (*Detention and Isolation of Suspected Animals*).

The question I asked the officer at the Department was this: Supposing an owner of a beast with induration of the udder, or some chronic disease of the udder, has had a professional opinion, and that the tuberculin test proved that the condition of the udder is not tubercular, must the owner report the case? and the answer I got was, "Yes, all diseases of the udder must be reported."

I further postulated that if a prosecution were instituted against such a person for not reporting, we would not get a verdict, because the magistrate would likely hold that the intention of the Order was to get at tuberculosis of the udder, and the defendant had got the highest skilled opinion, and this opinion was founded on the best tests known to the profession, and had proved it was not a case of tuberculosis.

The conditions for applying the tuberculin test was also dealt with at the deputation to-day. It was pointed out that any owner who did not consent to the tuberculin test being applied was brought to his senses by putting the animal under restrictions, and keeping her under restrictions until the owner consented to have the test applied. We had also a long discussion upon Article 7:

Post-mortem Examination of Slaughtered Animals.

7.—(1.) In the case of every animal slaughtered under this Order, the Local Authority shall cause the carcass, at the time of slaughter or as soon as practicable thereafter, to be examined by a Veterinary Inspector of the Local Authority, or (if so required by the owner or person in charge of the animal before it is slaughtered) by some other veterinary surgeon, who, failing agreement between the Local Authority and such owner or person, shall be nominated by the Department but paid by the Local Authority.

(2.) The Veterinary Inspector or other veterinary surgeon shall at the conclusion of his examination give

to the Local Authority and to the owner of the animal a certificate of the result of the examination in the Form set forth in the First Schedule hereto or to the like effect, and shall send a copy thereof to the Department.

On first reading, that paragraph conveys the idea that the Veterinary Inspector makes the examination, and then if the owner is dissatisfied he calls in another veterinary surgeon to make an examination, and if they disagree an arbitrator would be appointed by the Department. This is not the meaning of this clause, but it meant the owner is not satisfied with the local authority's veterinary inspector and won't have him. He then names some veterinary surgeon, and submits his name to the Department, and if they approve he proceeds to work. If, however, they don't approve, and the owner fails to nominate a person worthy of their approval, then they nominate a veterinary surgeon themselves. At present the section is ambiguous and embarrassing.

We next considered Sub-section 4, Section 8.

(4.) For the purposes of this Order an animal slaughtered under this Order shall be deemed to have suffered from advanced tuberculosis

(a) When there is miliary tuberculosis of both lungs;

(b) when tuberculous lesions are present on the pleura and peritoneum;

(c) when tuberculous lesions are present in the muscular system, or in the lymphatic glands embedded in or between the muscles; or

(d) when the carcass is emaciated and tuberculous lesions are present.

A question was asked in reference to chronic tuberculosis. I argued that they might have all these lesions or none of them, and still be bad cases. The section did not mention the viscera and their lymphatics.

Another question which was raised was in reference to Article 9, dealing with the question of inspected milk. "If the animal is reported a suspect for tuberculosis of the udder, the milk shall not be used while the examination of the milk is going on, or which the animal is under restrictions. The milk shall not be used for man or for the lower animals until it has been boiled or sterilised, and the utensils in which the milk is collected shall also be sterilised." I pointed out the great difficulty in getting that carried out. I always serve notice in such cases that the milk is not to be used even for the lower animals without being sterilised. We all know how the owner regards such restrictions, and that he does not fully appreciate the danger of using such milk when it is a question of £ s. d. If we serve notice, when we turn our backs they go on in the same way as if no notice had been served. In fact, to make it effective you would want to have an inspector on the premises from the time the milk is drawn until it has been disposed of. You have no power to slaughter unless the owner agrees, or the Department steps in and says "it must be slaughtered."

Another matter discussed was the detention and isolation of animals. Of course detention and isolation of animals is ordered only when the milk is being tested. Then with reference to the examination of the milk. You may find no tubercle bacilli the first time, and may perhaps require four or five samples before you get the necessary result for either the removal of the Detention Order or the issuing of an Order for the slaughtering of the animal.

Then there is the moving of the animal from one district to another. I put an animal under restrictions for the examination of milk; I don't get the results which would justify my keeping on the restrictions, and they are removed. The animal goes to another district. The veterinary inspector takes a sample of the milk, but he is luckier than the man in the previous district and gets it at the psychological moment—when the bacilli are present, and the reflection is on the man

in the first district. If a man has to take four or five samples from every cow in a large district I don't think he would live long, his duties would be so multifarious. The enforcing of this Article is of considerable importance, and it is quite possible that it may lead to considerable friction.

Veterinary inspectors in cities and large towns where large markets and fairs are held, have very important duties thrown on them in Article 11.

11.—(1.) A Veterinary Inspector or a Local Authority may by notice served on the owner or person in charge of a bovine animal exposed in a market, fairground, or saleyard which appears to him to be

(i) suffering from tuberculosis of the udder, indurated udder, or other chronic disease of the udder; or
(ii) suffering from tuberculosis with emaciation, require the animal to be removed from the market, fairground, or saleyard to the premises from which it was brought thereto, or if the owner or person in charge so desires, to any other suitable premises, to be specified in the notice, and thereupon the animal shall forthwith be moved by the owner or person in charge to those premises for the purpose of examination under the foregoing provisions of this Order.

(2.) Where the premises to which the animal is required under this Article to be moved are not in the same District as the market, fairground, or saleyard, the Inspector serving the notice shall forthwith send a copy of the notice to the Local Authority of the District in which the first-mentioned premises are situate.

I asked the Chief Inspector, did this imply that we were to turn animals out of the market and send them back to the district from where they came, merely acting on suspicion, and the reply was "Yes, act on clinical manifestations." I pointed out that it would be a great hardship on the owner if, after the animal had been sent back many miles by train at a considerable cost, it was found not to be affected with tuberculosis. If before paragraph (11) there were placed the first few lines of paragraph (12) it would help to strengthen the hands of the local authorities and clear the atmosphere considerably. I suggested that that should be done, but the Department would not harken to me.

Mr. HAMILTON: Is it punishable to take suspects or ones under detention to the market?

Mr. WATSON: Yes. There was just one other point that I touched upon, and that was in reference to Article 4, which states:

4.—(1) Where a Local Authority, from information received under the preceding Articles or otherwise, have reasonable ground for supposing that on any premises in their District there is a cow which is suffering from chronic disease of the udder or giving tuberculous milk, or a bovine animal which is suffering from tuberculosis with emaciation, the Local Authority shall with all practicable speed cause such veterinary examination of the bovine animals on such premises to be made by a Veterinary Inspector as in the opinion of the Local Authority is necessary to ascertain whether any cow thereon is suffering from tuberculosis of the udder or giving tuberculous milk, or whether any bovine animal thereon is suffering from tuberculosis with emaciation, and for that purpose the inspector may, with the previous consent in writing of the owner of the animal or of his agent, but not otherwise, apply the tuberculin test to any cow which the Inspector suspects of suffering from tuberculosis of the udder, or of giving tuberculous milk, or to any bovine animal which he suspects of suffering from tuberculosis with emaciation.

Now, in dealing with local authorities you will have difficulties. One local authority will instruct their officer to make a visual inspection. Another will urge the fullest use of the tuberculin test, and therefore you

will have no uniformity of action on the part of the various local authorities.

These are the main points of the Order. Perhaps Mr. Hamilton, who is well versed in the Order will be able to give us some others.

Mr. HAMILTON: In the first place the procedure is different from that of other diseases under the Diseases of Animals Acts. It is complicated, tedious, and responsible, it will generally be necessary to either examine the milk, the excretions, apply the tuberculin test, and in cases to go over all of them. Then in the case of disease, another visit is absolutely necessary to make the post-mortem. Thus the simplest case entails two visits, and the average will require three or more. This entails loss of time and expense, the amount depending to a great extent upon the distance the subject is located from your residence. I think this is a subject for very careful consideration, and we ought to at least suggest a scale of fees for each visit, so much for a first, a second visit, testing, etc., and for post-mortem examinations, or a suitable increase in the salaries of inspectors; and in either event I would insist on getting travelling expenses or allowances of say 1/- per mile for the single journey.

I am not proposing anything, but mention those matters for the consideration of this meeting. Such a scale approved by this Society would be of material assistance to inspectors when applying to their respective local authorities for remuneration for their services.

Mr. EBBITT: Am I to take it from the reply of the Chief Inspector to Mr. Watson, that induration of the udder was invariably tubercular?

Mr. WATSON: No, no.

Mr. EBBITT: Induration was supposed to give the inspector a slight idea.

Mr. WATSON: It is induration of the udder and as such must be reported.

Mr. EBBITT: After an experience of five years in the abattoirs of America, I found that induration of the udder is not always tubercular, and if an animal that is not tuberculous is slaughtered, and the people get to know of it, then you will lose the respect of the people. If there is tuberculosis you will find it in the lymphatics, the pharyngeal, pre-scapular, inguinal, and mesenteric—form sure guides not mentioned in the Order. I spent five years as a Government Inspector in America, and I was also employed by some of the largest packers to watch the Government inspectors, and I think I know something about this question. You may have indurated udders in cows and yet have no tuberculosis.

Mr. WATSON: That is my point. I think that the percentage of indurated udders that are tuberculous is very small.

The CHAIRMAN: Will you let me remind you of what I said at the outset of this discussion that I think it would be far better if you concentrated your attention not so much upon the interpretation of the Order or clauses of it, but gave more attention to the remuneration inspectors should receive for working the Order. I think we may take it that the veterinary inspector may be fairly well able to interpret the Order. If he is not able to do so already I am sure he will be after he pays a visit to the officers of the Department from whom the necessary instruction will be given, or at least after listening to their words of wisdom in reference to the Order he will come away fully prepared with all knowledge necessary to interpret the Order. What we want to consider as an Association is perhaps as interesting, and that is the question of remuneration.

Mr. TAYLOR: What are we to suppose about a case of an indurated udder and we get a reaction after applying the tuberculin test?

The CHAIRMAN: That it is a case of tuberculosis.

Mr. TAYLOR : Tuberculosis of the udder.

The CHAIRMAN : Not necessarily.

Mr. TAYLOR : If it is a case of an indurated udder and the cow reacts what is to be done ?

A MEMBER : You must prove that she has tuberculosis before you can slaughter the cow, and she must also be emaciated.

Mr. CARR : I don't altogether agree with the Chairman on this question. You have two classes of inspectors to take into consideration. I have nothing to do with the Board of Agriculture. I am independent of it altogether. I am an inspector under a local authority—a local sanitary authority, which according to the Diseases of Animals Act must be acquainted with the existence of tuberculosis. I fear that in the carrying out of this new Order you will have overlapping of duties. For instance, the report to the local authority is made under the Diseases of Animals Act, 1904.

The CHAIRMAN : The local authority now is the County Council.

Mr. CARR : For Dublin the local authority would be the County Council, and the Urban Councils of Blackrock, Dalkey, and Kingstown are the sanitary authorities to whom under the Act of 1904 the report would be made. What are we going to do in that case ?

Mr. HAMILTON : You are not going to do anything at all.

Mr. CARR : When a case is reported to the sanitary authority the inspector under it has to investigate and report. I want to convey to this meeting that you have two classes of inspectors to look after.

Prof. CRAIG : Not from the point of view of remuneration.

Mr. CARR : As regards the remuneration, the same man who carries out the inspection under the Diseases of Animals Act will largely carry out this Order ; in fact the dairy inspectors will be largely responsible for the working of the Order, for they are more in touch with the cows that it is intended should be weeded out by means of this Order. I am surprised at the way this Order has been drafted. I am informed that the local authority can order the slaughtering of an animal that has been reported by the dairy inspector and found by him to be tuberculous, and pay compensation up to £10 without asking the sanction of the Board of Agriculture.

The CHAIRMAN : We cannot allow this general kind of discussion to go on. We must get the business done.

Mr. McKENNY said as this Order can be interpreted in different ways, and Mr. Watson has clearly shown that it can, and that if we carry it out as it is we would bring our profession into disrepute; we should inform the authorities of the objectionable portions of the Order and ask that the Order be amended. Mr. Watson has also shown us the hardships that may be imposed on owners of cattle by the carrying out of this Order in its present form. For many years I have advocated that all these official orders should be drawn up in such a manner as to make them to the direct interest of the owners to co-operate in strictly carrying them out, indeed, otherwise it is unjust and unreasonable to impose penalties on the owners for carrying out orders that are framed for the welfare of the nation.

The owners who faithfully carry out the orders under the Contagious Diseases of Animals Acts should be indemnified from loss by so doing, and if they are not, it cannot be expected that they will willingly co-operate against their own interests ; and thus it can be easily imagined the manner in which the orders are carried out, and explains their failure in comparison to what they would be if they were willingly carried out with the co-operation of the owners.

We as a profession should not accept this Order without protesting if we do not consider that we can

carry out the duties allotted to us in an honourable manner becoming to the dignity of our profession. Of course those members of the profession holding appointments under the Contagious Diseases (Animals) Acts cannot be asked to throw up their appointments, and they will only be expected to carry out the Order to the best of their abilities to satisfy the authorities, be just to the owners and behave honourably towards each other ; as it seems from what Mr. Watson has explained to us that it is probable that tuberculosis bacilli may not be discoverable in the milk of a cow one day, and in a few days afterwards it can be, and as it is quite likely that two, or more, veterinary surgeons may be called on to examine the same cow at short intervals, and the results may be different, and therefore the opinions may be opposed to each other, although if the same samples were examined by all of the veterinarians they would agree. This fact should be made generally known by the veterinarians concerned.

Perhaps, when the Order is closely studied, it may not be as defective as it appears.

Mr. TAYLOR : Is it exactly the same as the English Order ?

The CHAIRMAN : I think it is.

Mr. HAMILTON : We are not asked to accept the Order.

Mr. THOMPSON : I am sure we are all deeply grateful for the explanations given by Mr. Watson and Mr. Hamilton. I think we should put all on one side and act on the advice of the President, and see if we can come to some arrangement as to the remuneration to be given to Inspectors for carrying out this Order. It would, in my opinion, be far better if we could get a uniform rate for the whole of Ireland. We know that if it is left entirely to County Councils, one will deal with it in one way and another in a very different way. We should adopt the suggestion of our President, draw up a scale of charges, submit it to the Department, and ask them to recommend it to the Council Councils for adoption as fair and reasonable. It would be far more satisfactory than leaving each inspector to make the best bargain he can with the local authority.

Mr. WATSON : In dealing with this question of increased remuneration for extra work, it should be borne in mind that the Treasury only proposes giving a grant for five years. It is to be a decreasing grant. Then at the end of the five years it may cease. If we are going to have a scale of fees for work in connection with this Order we must bear that fact in mind when fixing the charges.

Mr. THOMPSON : I don't know how the County Councils pay their inspectors in the South of Ireland, but in the North they frequently pay big fees—a fixed fee being allowed for each visit. Where it is the custom to pay a yearly salary, then I think a substantial increase should be granted to cover the extra work.

Mr. WATSON : We should take up the Order and ask the local authorities for fees for working under it, and then if they turn a deaf ear we can go to the Department and ask them to recommend a scale of fees to the local councils. Another point is with reference to a cow with an indurated udder being sent to market. A man with a cow of that kind has no business to send her to market, and if he gets a lesson by a substantial fine once he may not try it again.

Professor CRAIG : I may say I am the culprit responsible for bringing forward this subject for discussion, and for postponing the paper which our President had promised for to-night, but I hope that at the next meeting we will be favoured with that paper. I thought this Order of such very great importance to the profession that, as it comes into force next month, we should have an opportunity of considering and discussing the best methods of procedure, as well as the question of remuneration. Our President has emphasised

the necessity for dealing with the question of remuneration, but I think at the same time we should make certain that we are thoroughly conversant with the Order and its successful working. This is the first time that the State has begun to tackle the question of bovine tuberculosis, and if the Order is successfully carried out it may lead to a more complete control of the disease. It may be the beginning of great things for the profession, but this will depend to a great extent upon the capabilities shown by the veterinary inspectors and the local authorities. The cases of tuberculosis dealt with under this Order are tuberculosis with emaciation, tuberculosis of the udder, and tuberculous cows excreting tubercle bacilli in the milk. With regard to the last mentioned cases, we know that certain tuberculous cattle give tuberculous milk, although no lesions can be found in the udder. That has been shown by the experiments of the Royal Commission on Tuberculosis. The cases in which this occurs are cases of advanced tuberculosis—animals showing marked symptoms of the disease. It is not at all likely that the tubercle bacilli will be found on microscopic examination of the milk of these animals. As a rule these animals may be dealt with under the heading of tuberculosis with emaciation. The question of differential diagnosis of tuberculous udders requires careful consideration. Even after the clinical symptoms point to tuberculosis of the udder, we do not always find—after centrifugalisation of the milk from the affected quarter, and careful examination of stained films from the deposit, that tubercle bacilli are identified. If we come across other organisms in great abundance in films from milk which has been recently and properly drawn, the probability is that the disease of the udder is due to some cause other than tuberculosis. But where no organisms are found, what is to be done? No doubt one may take into account general symptoms, such as emaciation, coughing, disease of the lungs and diarrhoea, but these will only be suspicious symptoms. They will, however, give us some grounds for maintaining restrictions. At the same time no one desires to make this Order hard or unjust upon the owners. A diagnosis should be made as quickly as possible. If experimentation is resorted to, one may require to wait a month or more before a decision can be arrived at. In these cases resort may be made at once to the tuberculin test. If the animal does not react, presumably it is not a case of tuberculosis. If it does react, one may certainly conclude that it is tuberculosis, but cannot be certain whether the udder is affected unless there are local lesions. In some cases during the application of the tuberculin test, swelling and hyperæmia of tuberculous lesions take place. On that account the udder should be carefully examined at that time. The time at which tubercular mastitis is difficult to diagnose is in the early stages. In the later stages, when a large proportion of a quarter or of an udder is involved, tubercle bacilli will be easily discovered. It is possible that the number of tubercle bacilli in the milk in cases of tuberculous mastitis may be temporarily increased, as was done by the Royal Commission, in tuberculous animals without disease of the udder, by artificial means such as large doses of tuberculin.

In conclusion, I hope that the working of this Order will be kept within the profession, and that the veterinary inspectors will either make their diagnosis themselves or obtain the assistance for that purpose of one of their fellow members.

Mr. WATSON: If the inspector gives notice of the time when he intends to make the test, and if the owner doses the cow with a couple of doses of tuberculin two days before, we will get no reaction when we apply the test.

Mr. TAYLOR: Do you not think it would be better if the Association could offer some advice to men who

may be called upon to work this Order for county councils, and suggest to them the fees or remuneration they should seek.

Mr. HAMILTON: I think it would strengthen the hands of the local veterinarian, and also the position of the Veterinary Medical Associations. It would be better than having each man to make the best bargain he can with his local authority.

Mr. WATSON: We should make a common demand.

Mr. CARR: I am an inspector under the Local Government Board, and in the carrying out of this Order I expect trouble. The Department of Agriculture consider that they are the authority—the sanitary authority as defined in the Order we are considering, and it is the officers appointed by the sanitary authority who have the carrying out of the Infectious Diseases of Animals Act. For instance, in Dublin, Belfast, Cork, and other large cities, there is what is called the Superintendent Medical Officer of Health, and in the country districts and small towns there are the dispensary doctors, and similarly in regard to this Order you will have clashing of authorities. The sanitary authority may say our inspectors are inspectors under the Public Health Act. They should carry out the Order; or the local authority may consider that the responsibility for the working of the Order rests with their inspector. I do not think the Department took this into consideration when drafting the Order. I hardly think they will give us a new Order, but when I see Mr. Prentice I will put him one or two straight questions on the point. I don't altogether agree with the President that this is the place to consider the question of fees. I think we should consider the course of action to be taken in regard to the Order. The inspector's duties will have to be defined more clearly before we are in a position to fix a scale. What brought me here was to get some information as to the working of the Order.

Mr. HAMILTON: You will get enlightened on all the points when you go to the Department.

Mr. CARR: When the 1910 Order was issued I was an enthusiast. One cowkeeper reported to me, and I reported the case to the Department. What do you think they did? They sent a sergeant of police to make enquiries into the case, and when the owner saw the sergeant coming into the premises he was disgusted—for I need hardly tell you that cowkeepers don't like policemen coming to their places. The man refused to give the sergeant any information, and the policeman came to me to see what was to be done in the circumstances. Methods like that are a disgrace—nothing short of it. I met Mr. Hedley shortly afterwards and told him the circumstances, and he agreed that the owner was perfectly right in refusing information to the sergeant.

Mr. WATSON: This Order will not interfere with the Sanitary Authority.

Mr. CARR: The Order says, "Nothing in this Order shall be deemed to interfere with the power of Sanitary Authorities in carrying out the provisions of the Tuberculosis Act of 1908." Under the Act the Sanitary Authority has power to order animals to be slaughtered. (A Member: That is the crux of the whole matter. It will be a case of which will get in first.)

Mr. TAYLOR: I propose that we draw up a scale of fees to be submitted to county councils.

The CHAIRMAN: I suggested to the members that the principal item for our consideration was not so much the interpretation of the Order as the adoption of some scale of fees to make it remunerative. Mr. Carr seems to think that the important matter is the interpretation of the Order. The local authority is specified in the Order as the bodies to carry out the provision, and the local authorities now are the county councils. It is under these we will have to work, and we should have some scale of fees drawn up for submission to them.

Anything the sanitary authority may do in regard to tuberculosis will be done under a different Act, and will have nothing to do with this Order. Sanitary authorities will act in cases where the milk is sold, but this Order applies to all owners of stock, whether the milk is sold or not.

Mr. WATSON: Have you any particulars as to the scale of fees in England?

The CHAIRMAN: Mr. Carr need not fear that there will be any clashing between the different authorities. As to the scale of fees, I have a copy of *The Veterinary Record* and it gives the scale fixed for submission to the County Council of Kent. It may be taken as a typical county.

Some of you have found fault with me for the somewhat sordid view that I took of this Order, and may think that a scale of fees drawn like that one sent to the Kent County Council may frighten the Irish County Councils from adopting the Order at all. The question is would it be better to have a scale of fees or an inclusive charge for each case.

Mr. HAMILTON: Say a guinea a day.

The CHAIRMAN: I think fees would be better. You might have several cases in one journey of fifty miles, or perhaps more; you might have to go that distance for only one.

Mr. TAYLOR: Well, the tuberculin test should be a guinea a case, to include examining the milk.

The CHAIRMAN: I think it would be better to adopt a scale on the lines of the Kent fees.

Mr. CARR: Under the Tuberculosis Order the County Councils have appointed pathologists for examining samples of milk.

The CHAIRMAN: That is a different matter altogether.

Mr. CARR: We are back to the same point.

Mr. EBBITT: Is tuberculin made in this country.

The CHAIRMAN: Only at the Royal College.

Mr. EBBITT: I think the Department should be advised to try and make it. It is simply ridiculous that it is not made in this country. It is after all a very simple matter.

The CHAIRMAN: We should take into consideration what ought to be done in regard to fixing fees, and get a scale if possible which may be universally applied. It would also be advisable to seek the co-operation of the Department, and ask them to remember the scale which we suggest to the county councils.

Mr. HAMILTON: I don't think there will be much good in asking the Department to do that.

The CHAIRMAN: It will be too late to try to do anything when the local authorities have drawn up their own regulations. We know how many Councils treat their own officials.

Mr. HAMILTON: You refer entirely to the question of remuneration.

The CHAIRMAN: Yes. You will remember that in connection with the erection of labourers' cottages, the Local Government Board suggested certain scales of fees should be paid to the engineers. They could now do the same for us in reference to this Order.

Mr. HOLLAND: If the Department made the suggestion that a certain scale of fees should be paid, the local authorities would probably agree to what the Department would suggest.

A MEMBER: Mr. Carr has referred to local authorities having appointed pathologists. If we fall under their hand we are done for. If you send milk to the medical officer you have got no case for asking for anything. Stand upon your own feet and don't send samples of milk to the medical officers for examinations.

Mr. McKENNY: I think we should appoint a small committee to consider the Chairman's proposals as to a scale of fees.

The CHAIRMAN: I think it would be better to have a committee to represent all the provinces.

A small committee was then appointed to consider the matter, and it was agreed that it should meet at the close of the general meeting.

The CHAIRMAN: Before we go into the assembling of this Committee is there any other business to be brought before the Association or has any member any suggestion to make.

Mr. HOLLAND: In connection with this discussion we ought to ask the Department to suggest our scale of fees to the local authorities for adoption.

The CHAIRMAN: We can lose nothing by doing that.

Mr. CARR: This Association is in the habit of giving medals. I suggest that in the future they be struck in Ireland instead of in England. I saw some struck in Ireland for the National University and they were, in my opinion, superior to those the Association got in England.

The CHAIRMAN: I am sure your suggestion will be acted upon in future.

The Sub-Committee then met, and the following scale of fees was drawn up:

- | | | |
|---|----|-----|
| 1. For clinical examination of the first animal a fee of | 10 | 6 |
| Each additional animal on the same premises | 1 | 0 |
| 2. When the premises are more than 15 miles distant a fee for the first animal of | 1 | 1 0 |
| 3. For applying the tuberculin test up to four animals | 2 | 2 0 |
| Each animal over 4 | 5 | 0 |
| 4. Post-mortem examination | 1 | 1 0 |
| 5. Microscopic examination | 10 | 6 |
| 6. Mileage at the rate of 1s. per mile one way, or railway fare. | | |

It was directed that a copy of this scale of fees should be sent to Veterinary Inspectors with a recommendation that they should place them before their local authorities and not accept lower fees. A copy also to be sent to the D.A.T.I. with a request that they will recommend their adoption to the local authorities.

Royal College of Veterinary Surgeons.

EXAMINATIONS IN LIVERPOOL.

At the recent examinations held by the Court of Examiners in the University of Liverpool on July 7th for the Written, and on July 12th and 15th for the Oral and Practical Examinations, the following gentleman passed his Final Examination and was admitted a member of the Royal College of Veterinary Surgeons:—

Mr. Charles William Elam.

The following passed his Third Examination:—

Mr. Robert Parkinson Holmes. *

The following passed their Second Examination

Mr. T. A. Dobie	Mr. P. McNamee
T. A. Elam	

The following passed their First Examination;

Mr. W. F. Aston	Mr. E. P. Shallcross
E. Golding	E. J. H. Sewell
S. Pugmire *	

Marked thus * passed with Second Class Honours.

CHAS. BLACKHURST, Secretary.

EXAMINATIONS IN GLASGOW.

At the meeting of the Board of Examiners held in Glasgow on July 7th for the Written, and on July 11th and 14th for the Oral and Practical Examinations, the following gentlemen passed their Final Examination and were registered Members of the R.C.V.S.:—

Mr. J. Scott Moncrieff, Lanark.
R. McKay Lawson, Glasgow.
Tom T. Taylor, Saltcoats.

The following passed their Third Examination:

Mr. Eric E. McLachlan Mr. Wm. Watt
J. D. Fulton

The following passed their Second Examination:

Mr. A. Campbell Mr. J. Robertson
N. A. McEwen W. Macgregor

The following passed their First Examination:—

Mr. J. S. Keane Mr. F. MacKenzie
A. Robertson D. Gillmor
D. E. Orr W. R. Smith
J. M. Gray

Mr. ARCH. BAIRD, M.R.C.V.S.
Local Secretary to the Board of Examiners.

The Tubercle Bacillus.

A report on the results of a chemical investigation undertaken by Dr. Arthur Harden (assisted by Mr. S. G. Walpole) at the request of the Royal Commission on Human and Bovine Tuberculosis is published as Appendix Vol. VI. of the Final Report of the Commission [Cd 6904].

The object of the investigation was to ascertain whether it was possible by chemical means to differentiate between tubercle bacilli of the human and bovine types. The report gives a systematic quantitative comparison of the action of the two types, the principal conclusion from which is that no definite physiological difference has been detected between tubercle bacilli of different origins. It is further concluded that such differences as exist between the amounts of action exerted on glycerol beef broth by different cultures are probably to be attributed to differences between the weights of organism formed, the times of incubation, and individual characteristics of the strains. When B. Tuberculosis is cultivated on glycerol broth, the proteins of the broth undergo hydrolysis to a considerable extent. Glycerol is partially removed by oxidation. There is no evidence that consumption of glycerol is directly related either to weight of culture obtained or to change in acidity. The initial fall in the acidity of the medium is largely due to the removal of the acids soluble in ether. Further important factors in producing change in acidity are the production and removal of ammonia (free and saline) and the digestion of the proteins.—*The Times*.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders † (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks	Slaughtered.*
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
GR. BRITAIN.													
Week ended July 19	3		7				3	7	27	58	1	57	591
Corresponding week in	1912	11		15	4	38	9	12	36	60	1	42	666
	1911	10		13	3	298	2	3				54	1016
	1910		21	22			9	31			2	34	323
Total for 29 weeks, 1913	336		268				98	275	1760	3626	123	1418	19141
Corresponding period in	1912	524		588	49	290	101	203	2198	4830	165	1973	25246
	1911	510		534	7	393	113	289			304	1515	17516
	1910		867	1044			203	592			322	857	7655

† Counties affected, animals attacked: London 6, Stafford 1.

Board of Agriculture and Fisheries, July 22, 1913.

IRELAND. Week ended July 19									Outbreaks		7	3	14
	...	...	...	...	...	...	...	...	1				
Corresponding Week in	1912	...	...	...	61	...	...	...	...	...	...	8	44
	1911	...	1	1	...	...	...	...	...	...	1	5	60
	1910	...	...	...	...	...	...	...	3	...	4	...	11
Total for 29 weeks, 1913	...	...	...	...	...	...	...	...	93	...	340	93	556
Corresponding period in	1912	...	2	2	16	195	...	...	46	...	262	153	1357
	1911	...	6	7	...	...	2	3	44	...	245	74	1229
	1910	...	5	8	...	...	1	2	43	...	339	62	1538

† These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, July 21, 1913

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Stampede of Horses at Aldershot.

The Field operations by the whole of the Aldershot Command, under the direction of Sir Douglas Haig ended on Tuesday last. About 2.30 a.m. a serious stampede took place among the horses of the Queen's Bays, who were co-operating with General Lawson's Division. The cavalry had got into bivouac within the infantry pickets, when at 2.30 they were fired upon at close quarters by a hostile patrol who had penetrated the lines. The horses stampeded instantly. Many were badly hurt and a large number escaped into the darkness, some 50 of them making straight for their stables at Aldershot, seven miles away. Six horses were so seriously injured that they were shot on the ground, several ran into a bog, from which they were extricated by Engineers, and many were badly mauled during their struggle on the picket ropes or in their subsequent gallop. Staff-Sergeant Farrier Rush and Privates Vine and Synnott were hurt in the *mêlée*, the non-commissioned officer's injuries being of a very serious nature. All three were removed at once by motor car to the Cambridge Military Hospital at Aldershot.

Personal.

WHITE.—On July 22nd, at 111 Arundel Avenue, Liverpool, the wife of James H. White, M.R.C.V.S., of a son.

TUBERCULOSIS ORDER, 1913.

Sir,

Is not the working or rather the non-working of this Act rather a farce?

Some time ago I wrote the Clerk of one of the two County Councils for which I act saying that I had a suspicious case and asking how I was to proceed. He replied stating that he was in communication with the Board of Agriculture and hoped to issue instructions shortly. However, I have heard nothing further.

To-day a client of mine informed me that one of his cows which I recently tested and which reacted was becoming emaciated; he therefore reported it to the Police who have replied stating that they have no instructions to work the Act! This puts one in an invidious position, and personally I shall not attempt to report cases in this county, as nothing is done.

In the other county for whom I act, there are three cattle markets in my district, but I have not been appointed by the county to act on their behalf, and at two of these I commonly am not present even in a private capacity, so that they have absolutely no inspection whatever, though I know that the auctioneers would prefer an inspector being present on behalf of the local authority.

This county has sent inspectors a list of fees allowed, and for the tuberculin test they allow £1 1s. for one animal plus 1/- per mile one way for one journey only, so that presuming one gets one cow to test ten miles away—one is supposed to make at least four journeys of twenty miles each, or a total of 80 miles for 31/-!!

I hope that our newly appointed Association is looking into these matters.—Yours, etc.,

July 21.

INSPECTOR.

TUBERCULOSIS ORDER, 1913—FEES.

Sir,

In reply to Mr. J. R. Robins' letter in your issue of 19th inst., re the Somerset County Council fee of 5s. for post-mortem examinations under the Tuberculosis Order, 1913, in the scale of fees sent me on my appointment as an Inspector under this Order, no special provision seems to be made for post-mortem examinations, consequently in an account which I have submitted I charged the fee allowed for anthrax exams., i.e. 10s. plus mileage.

I am glad to say the low scale of fees allowed by the Somerset County Council seems likely to be soon altered

for the better, as, thanks to the exertions of the late Mr. G. H. Elder, Taunton, ever ready to use his best efforts in the interests of the profession, the Sub-Committee of the Council have agreed to the adoption of the "National" scale of fees, and it only requires ratification by a general meeting of the Council to be held in September.

This followed on a representation from the Western Counties Veterinary Medical Association, who approached the County Councils of Devon and Cornwall in like manner.—Yours faithfully,

H. E. WHITEMORE.

Langport, Somerset. July 21.

A SUGGESTION FOR PREVENTION OF MILK FEVER.

Sir,

In the issue of *The Veterinary Record* of last week, there appears "a suggestion for prevention of milk fever" by Mr. W. E. Blackwell, viz., that the cow should not be milked for 48 hours after calving. This has been a theory in existence for a number of years amongst farmers themselves.

A client of mine who has a dairy of 70 cows had a most tenacious belief in this theory, but this summer he has had a rather rude awakening, having had no less than three cases of milk fever within a month, not one of which cows was milked by human aid! Then, again, how does Mr. Blackwell account for the numerous cases of milk fever which one gets where the cow is found down with the disease within a few hours of calving, and where the udder has never been touched?—Yours faithfully,

E. J. THORBURN.

Crewkerne, July 20.

Veterinary Societies—Addresses.

BORDER COUNTIES V.M.S.

Pres: Mr. J. W. Hewson, M.R.C.V.S., Wigton

Hon. Sec. (pro tem.): Mr. F. W. Garnett, M.R.C.V.S.,

Dalegarth, Windermere

Meetings, Second Friday of Feb., June, and October

NORTH MIDLAND VETERINARY ASSOCIATION

Pres: Mr. F. L. Somerset, M.R.C.V.S., Chesterfield

Hon. Sec: Mr. J. S. Lloyd, F.R.C.V.S., Sheffield

GLASGOW V.M.S.

Pres. Principal McCall.

Hon. Sec. Mr. J. Gibson, 16 Overdale Gdns, Langside, Glas

ROYAL VETERINARY COLLEGE M.A.

Pres: Dr. Lander, D.Sc.

Hon. Sec: Mr. B. Gorton, M.R.C.V.S. Assist. Mr. T. J. Davis

ASSOCIATION OF VETERINARY OFFICERS OF HEALTH

Pres: Mr. J. G. Reynard, M.R.C.V.S., Perth

Hon. Sec. & Treas. Mr. A. M. Trotter, M.R.C.V.S.,

Moore Street, Abattoir, Glasgow,

NATIONAL ASSOCIATION OF VETERINARY INSPECTORS

Pres: Mr. J. Abson, F.R.C.V.S., Sheffield

Hon. Sec: Mr. Trevor Spencer, M.R.C.V.S., Kettering

NATIONAL VETERINARY BENEVOLENT & MUTUAL DEFENCE SOCIETY.

Pres: Mr. W. A. Taylor, F.R.C.V.S., Brick-st, Manchester

Hon. Sec: Mr. G. H. Locke, M.R.C.V.S.

Grosvenor Street, Oxford-st., Manchester

Treas: Mr. J. B. Wolstenholme, F.R.C.V.S.,

Quay-street, Manchester

VICTORIA VETERINARY BENEVOLENT FUND.

Pres. W. Freeman Barrett, Esq. Fountain Ct, Temple, E.C.

Hon. Sec. & Treas: Mr. W. Shipley, F.R.C.V.S.

South Town, Great Yarmouth

COLONIAL SOCIETIES (continued next page)

VETERINARY ASSOCIATION OF NEW SOUTH WALES.

Pres: Mr. S. T. D. Symons, M.R.C.V.S., Chief Insp. of Stock

V. Pres: Prof. T. D. Stewart, M.R.C.V.S., B.V.Sc., Syd.

Hon. Sec. & Treas: Mr. Max. Henry, M.R.C.V.S., B.V.Sc. (Syd).

56 Bridge Street, Sydney.

NATIONAL VETERINARY ASSOCIATION

Pres. Mr. William Hunting, F.R.C.V.S.
Sec. Mr. William Hunting, F.R.C.V.S., London, S.W.
Treas. Prof. G. H. Wooldridge, F.R.C.V.S.,
 Ryl. Vet. Coll., Camden Town N.W.

Northern Branch:

Pres. W. A. Taylor, (F) Brick Street, Manchester
Hon. Sec. A. W. Noël Pillers, (F)
 74 Smithdown Lane, Liverpool

LANCASHIRE V.M.A.

Pres. Mr. G. H. Locke, M.R.C.V.S.,
 Grosvenor-street, Manchester
Hon. Sec. Mr. J. W. Brittlebank, M.R.C.V.S.,
 Town Hall, Manchester

Hon. Treas. Mr. E. H. Stent, M.R.C.V.S., Preston-st, Hulme
Meetings, 1st Thursday in April, June, Sept., & Dec.

LIVERPOOL UNIVERSITY V.M.S.

Pres. Mr. J. P. Heyes, F.R.C.V.S., Wigan
Hon. Sec. A. Walker, M.R.C.V.S., Mill Lane, West Derby
Pathological Sec. Mr. D. C. Matheson, F.R.C.V.S.
Meetings, May, July, October, January.

MIDLAND COUNTIES V.M.A.

Pres. Mr. J. Martin, M.R.C.V.S., Wellington, Salop
Hon. Sec. Mr. H. J. Dawes, F.R.C.V.S.,
 Camden House, High-st., West Bromwich
Meetings, Second Tuesday, Wednesday, Thursday, and
 Friday alternately in Feb., May, Aug. and Nov.

NORTH OF ENGLAND V.M.A.

Pres. :
Hon. Sec. T. T. Jack, M.R.C.V.S., 3 Elmwood Ter, Sunderland
Meetings, Third Friday, Feb., May, Aug. and Nov.

NORTH WALES V.M.A.

Pres. Mr. F. Booth, M.R.C.V.S., Colwyn, Denbighshire
Hon. Sec. Mr. L. W. Wynn Lloyd, M.R.C.V.S., Carnarvon
Meetings, First Tuesday, March and September

SOUTH DURHAM AND NORTH YORKSHIRE V.M.A.

Pres. Mr. W. Awde, F.R.C.V.S., Stockton-on-Tees.
Hon. Sec. & Treas. Mr. J. H. Taylor, F.R.C.V.S.,
 Grange Road, Darlington
Meetings, First Friday, Mar., June, Sept. and Dec.

YORKSHIRE VET. ASSOCIATION

Pres. Mr. J. Abson, F.R.C.V.S., Norfolk Street, Sheffield
Hon. Sec. Mr. J. Clarkson, M.R.C.V.S., Garforth, nr. Leeds
Hon. Treas. Mr. A. McCarmick, M.R.C.V.S.,
 Kirkstall-road, Leeds

Southern Branch:

Pres. Sir Stewart Stockman, 4 Whitehall Place, S.W.
Sec. T. C. Toope, 34 High Street, Dover

CENTRAL V.S.

Pres. Mr. J. W. McIntosh, M.R.C.V.S., 14 Templar-street,
 Myatt's Park, S.E.
Hon. Sec. Mr. H. A. MacCormack, M.R.C.V.S.,
 122 St. George's Avenue, Tufnell Park, N.

Meetings, First Thursday in each month, except August
 and September, 10 Red Lion Square, Holborn, at 7 p.m.

EASTERN COUNTIES V.M.A.

Pres. Mr. F. B. O. Taylor, M.R.C.V.S., West n Longueville,
Hon. Sec. & Treas. Mr. Sidney Smith, Junr., M.R.C.V.S.,
 37 High Street, Lowestoft
Meetings, Second Tuesday, Feb., July and Sept.

LINCOLNSHIRE AND DISTRICT V.M.S.

Pres. Mr. C. W. Townsend, F.R.C.V.S.,
 Long Stanton, Cambridge
Hon. Sec. & Treas. Mr. Tom Hicks, M.R.C.V.S.,
 Boston Road, Sleaford
Meetings, Second Thursday Feb., June, and October

ROYAL COUNTIES V.M.A.

Pres. Mr. David Wyllie, M.R.C.V.S., Tudor House, Staines
Hon. Sec. & Treas. Mr. G. P. Male, M.R.C.V.S., Reading
Meetings, Last Friday, Jan., April, July and Nov.

SOUTHERN COUNTIES V.S.

Pres. Mr. G. H. Livesey, M.R.C.V.S., Hove, Sussex
Hon. Sec. Mr. J. Alex. Todd, M.R.C.V.S., Worthing
Hon. Treas. Mr. E. W. Baker, M.R.C.V.S., Wimborne
Meetings, Last Thursday, Mar., June and Sept.

SOUTH EASTERN V.A.

Pres. Mr. James Crowhurst, F.R.C.V.S., Canterbury
Hon. Sec. & Treas. Mr. Theo. C. Toope, M.R.C.V.S.,
 34 High Street, Dover
Meeting, Second Wednesday in May; Maidstone

WESTERN COUNTIES V.M.A.

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Pres. Mr. W. Marsden, M.R.C.V.S., Banff
Hon. Sec. & Treas. Mr. G. Howie, M.R.C.V.S., Alford, Aberdeen
Meetings, Last Saturday in January and August

ROYAL SCOTTISH V.S.

Pres. Mr. Reid, M.R.C.V.S., Auchtermuchty.

SCOTTISH METROPOLITAN V.M.S.

Pres. Mr. P. Wilson, M.R.C.V.S., Lanark
Hon. Sec. Mr. Jas. Henderson, M.R.C.V.S.,
 Public Health Dept., City Chambers, Edinburgh

WEST OF SCOTLAND V.M.A.

Pres. Prof. John R. McCall, M.R.C.V.S., Vety. Coll. Glasgow
Hon. Sec. Mr. J. F. Macintyre, M.R.C.V.S.,
 19 Bank Street, Hillhead, Glasgow
Hon. Treas. Mr. Geo. W. Weir, M.R.C.V.S.,
 88 Crookston Street, Glasgow
Meetings, Second Wednesday, May, Oct. and January.

COLONIAL SOCIETIES: (see preceding page)**BRITISH COLUMBIA V.M.A.**

Pres. Dr. Gibbons, M.R.C.V.S., Vancouver,
Hon. Pres. Dr. Hamilton, M.R.C.V.S., Victoria.
Sec., Treas., Registrar. Dr. T. Jagger, V.S., Vancouver.

CAPE OF GOOD HOPE V.M.S.

Pres. Mr. J. D. Borthwick, M.R.C.V.S., Cape Town
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 Vety. Inspector Natal Police, Pietermaritzburg

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Pres. Mr. C. E. Gray, P.V.S., Box 134, Pretoria.
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THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

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THE WEEK'S MEETINGS.

The veterinary meetings which occupied the first half of this week in London were highly successful upon the whole. The one thing we could have wished for was a larger muster of members; for none of the attendances could be called more than fair, and one or two were distinctly poor. But in every case the spirit of the members made up for any deficiency in numbers.

On Monday afternoon the new Association of Veterinary Inspectors met for a comparison of experience of the Tuberculosis Order; and this proved very valuable. No doubt the proceedings will be reported; and all we need say of them now is that the discussion amply justified the existence of a Society composed wholly of veterinary inspectors, and concerned with their special work alone. Such an Association has now become a necessity to us.

On Tuesday, the "National" meetings commenced. In the morning the first place was given to Dr. Griffiths' paper on "The form of the foot of the Shire horse"—in some respects the most noteworthy paper presented this year. It consisted of original observations, which were well received by the members, and which certainly deserve following up in the future. So far as we know, Dr. Griffiths' views are quite new; and many of our members have opportunities of testing them.

The afternoon was devoted to Mr. Henry Gray's paper "Do we need a new Degree?" This produced a brisk discussion in which the bulk of the speakers inclined to the view that a Public Health Degree on the lines already projected by the Council is needed—thus answering the question in the affirmative.

The annual banquet was held that evening, and was more than successful. The attendance was just over ninety, ladies being well represented; and a not very long toast list, with some particularly good music, helped to make the function one of the most pleasant ever held by the "National."

On Wednesday morning we had Mr. Livesey's paper on "Gastric and Intestinal Disease in Dogs"—a clinician's subject, which was well discussed without revealing any great differences of opinion amongst the speakers. In the afternoon the final paper was taken, "The Milk Bill and the Tuberculosis Order," by Mr. Male. Very often the final afternoon of a "National" programme is marked by a little visible slackening in the interest of members. This one certainly was not, for Mr. Male's paper evoked a most lively and interesting discussion, which could probably have been prolonged for another hour or more had time permitted. But time did not permit—the discussion had to be ter-

minated, and then the usual votes of thanks brought this year's "National" meetings to an end.

This was the thirty-first general meeting of the "National," and the first under the new rules of affiliation. Next year the usual gathering will not be held. At the time of the International Veterinary Congress, there will be a formal meeting of the "National" for necessary business and to elect officers for another year, in accordance with the rules. Thus all members may be free to concentrate their attention upon the International Congress.

For the next two years, then, the "National" will have little to do beyond continuing, through its Council, to act as the centre of the organisation of the Societies. The place of the 1915 reunion will be chosen, and officers elected, at the brief business meeting of next year. Meanwhile, last year's officers have all been re-elected for the quiet twelve months of 1913-1914—with one addition. It has been decided to add to the working staff an assistant secretary, and Mr. W. L. Harrison has been elected. Frequenters of the "National" meetings know quite well that the selection was made on account of the capacity which Mr. Harrison has already shown as Local Secretary at more than one reunion.

ANTHRAX IN ELEPHANTS.

Before describing this outbreak, which occurred in two herds of elephants grazing in the forest two days march from Toungoo, I must attempt to give some idea of the manner in which the elephants under my supervision are kept, and then you may make allowances for any omissions in the manner of diagnosis or treatment or prophylactic measures.

In the first the animals live entirely in the jungle, the distance away from headquarters varying from two days march the nearest camp, to twelve days march the furthest camp. The animals during the off season (March, April, and May) are caught by their riders once a day and brought into camp, and again set free into the jungle to graze, after this cursory inspection by the head rider or Sinok. There is no such thing as stabling or keeping an animal under observation for any lengthened period. With these few facts in mind I will proceed with the description of the outbreak.

April 24th.—Blood smears received, taken from elephant that had died suddenly two days previously. After microscopic examination, diagnosis—Anthrax. Two more sets of blood smears coming later in the day from the same area confirmed my diagnosis. Three animals dead.

April 25th.—After forced marching, arrived here in the infected area. Another elephant "K" reported ill. On seeing the animal, in semi-darkness, find him very weak, leaning against a tree on the bank of the stream; owing to darkness I was unable to make a thorough inspection of the animal. He appeared dull, haggard look on the face, penis pendulous, eyes running, and behind the shoulder on the right side, at about the region of the lower border of the scapula, was a small well-defined swelling, which was hot and painful to the touch. The animal was lame, and disinclined to move the right foreleg. I was unable to get this animal's temperature as he was a vicious beast and would not allow it. Blood smears were taken, and I found *anthrax bacilli (few) present in the blood*, taken at seven o'clock this evening.

April 26th.—"K" reported to have died at about 2 o'clock this morning; slides taken immediately after death show large numbers of bacilli. Went to see the carcass; the animal had died in a kneeling position, the mouth, eyes, penis, and anus all showing evidences of discharges. The carcass was burnt whole, and remains covered with quicklime. The animal's tracks were followed up for two days by men with instructions to burn and disinfect all dung.

"S." Female elephant, caught this morning. Symptoms: dullness, disinclination to move, eyes running, watery discharge, excessive flow of saliva, urination frequent and large in amount, faeces normal in appearance, small amount, small well-defined swelling behind the right shoulder, hot and painful to the touch. Jaw pendulous and body temperature uneven; again unable to get temperature. The Sinok (head man) reports that when the animal was caught yesterday evening he noticed this small swelling, which did not appear to cause the animal any inconvenience. To-day the animal is decided lame. Instructions were given to chain the animal to a tree and foment this small swelling with hot water all day and every day until animal dies, or, which I did not then think possible, recovers. Slides taken, but no bacilli found. The area round about where she is tied up is being burnt over, and any faeces she may pass disinfected at once, food and water is being carried to her.

"G." Large tusker, reported with similar symptoms to "S" this morning. Slides taken, but do not show any bacilli; animal too far away to visit.

April 27th.—"G" died 3 o'clock this afternoon; slides taken show *Anthrax bacilli*. "S" still ill. Swelling on side increasing in size and extending down towards sternum. To-day all the rest of the elephants (10) that had been in contact, are moved one day's march away from this area, and each tied up to a tree in the forests, one mile apart, with two men to attend to each animal. This necessitated my shifting camp from the place where "S" is tied up, in order to daily go round the segregated animals.

April 28th.—No more cases apparent yet. "S" reported still alive, swelling increasing.

April 29th.—Inspected whole of segregated animals this morning. "M," female elephant, shows small well-defined swelling behind right

shoulder, and was slightly lame. Temperature 101. watery discharge from eyes, swelling painful and three inches in diameter; animal is tied up, and hot fomentations are to be applied continually.

April 30th.—Inspected whole of segregated animals.

"D" was in "musth," but to-day the musth glands have suddenly ceased discharging.

"M." Swelling on right side enlarged, 8 in. to 10 in. in diameter, animal apparently healthy and lively but very lame. Unable to get temperature.

"S." Swelling has burst in three places. I am unable to go and see the animal myself.

"D." Rider came in this evening reporting that a small swelling had appeared behind his right shoulder, and animal seems to be in pain. There was no sign of a swelling this morning.

May 1st.—"D." At 6.30 a.m. animal in great pain, lying down and rising continually; eyes running copiously and "musth" glands discharging freely, haggard countenance, penis pendulous, and lower jaw dropped.

"M." Still eating and lively, swelling greatly increased, extending beneath the chest and between the fore-legs, cold and slightly painful to the touch. Fomentations stopped, still lame; unable to get temperature.

"D." Twelve o'clock mid-day, rider reports death.

May 2nd.—"M." Still lively. No further outbreak.

May 3rd.—"M." Still lively and eating; swelling cold and painless, only slightly painful in the region of the original small swelling. Animal set free to graze on far side of stream. Rest of elephants moved a day's march further up stream and set free to graze as usual, as I consider the danger of a further outbreak past, after seven days strict segregation.

May 4th.—"M." Still the same; swelling being treated with tinct. iodi., and is slightly reduced. Lameness gone. Shifted camp back to the area where "S" is tied up. Still alive. Visited "S" and find swelling has burst in three places, a stinking discharge is issuing, vagina is slightly prolapsed and greatly swollen, animal very thin and miserable, men have been neglecting the animal and were severely handled in consequence (the only way to get things done out here). Sore and vagina thoroughly cleansed and disinfected, and animal properly fed and watered.

May 7th.—Returned to Toungoo.

May 26th.—Again inspected "S" and "M," both animals have quite recovered. "S" has still two unhealed sores on the lower portion of the chest wall, and as she is an old animal (about 50 years) these will take some time to heal. "M" is again fit for work. She is quite a young animal about 25 years old.

I have no doubt that these animals "S" and "M" have recovered from anthrax, although I did not find bacilli in the blood taken from them, this fact not being unusual as the bacilli are not present in the blood, to any great extent, until just before death.

In the other cases "K" died in about 60 hours

after showing the first symptoms, and six hours before death I found anthrax bacilli present in his blood.

"G" died roughly in 48 hours after the first symptoms were seen.

"D" died in less than 24 hours after showing the first symptoms. This was probably due to the animal being fairly old (45), and his resistance to disease must have been greatly reduced as he was in "mush," a period in which the elephant seems to undergo some great change.

For staining slides I used M'Fadyean's Polychrome methylene blue, John's Anthrax stain (2 per cent. Gentian violet), Leishman's, and Giemsa's stain: the two latter being modifications of Romanowski's stain.

I enclose three photographs showing our method of travelling about the jungle.

G. G. HOWARD, M.R.C.V.S., D.V.H.

Toungoo, Burma. June 13.

GOITRE (STRUMA MOLLIS) IN PUPPIES.

Some three months ago I was asked to look at a litter of eight pedigree Airedale puppies, four months old. I found all to be affected to a greater or lesser extent with goitre. The hypertrophied thyroids varied in size from an orange down to that of a golf ball. In all cases both glands were affected, though not necessarily equally so. The swellings were soft, elastic, and not nodulated.

History.—The pups had been well cared for, and were in good condition. They had plenty of fresh air and exercise, and were born and had remained in a place well above sea level.

Müller states heredity in young animals is a predisposing cause (struma congenita). I therefore examined both parents very carefully, but they were perfectly healthy, though, of course, this does not disprove the case being one of heredity.

Treatment.—Grs. 3 Potass. iod. daily in milk, water to be boiled; externally Iodine ointment to the swellings, and half a thyroid from a freshly killed sheep for each pup daily.

Result.—The swellings after five or six days started to subside, and in three weeks had disappeared, leaving the thyroids normal, and now, some nine weeks later, there is no trace of recurrence.

It is an open question whether these puppies would not have recovered spontaneously—not having had previous experience of a similar case I offer no opinion; nor am I prepared to affirm that the treatment was responsible for the rapid cure; it was simply based on the lines of the orthodox treatment for human beings. The result was certainly surprisingly satisfactory, and as I fancy the condition is not a common one, I record it.

E. S. GILLET, A.V.C.

Saharanpur, India. July 1.

A MULE MARE WITH FOAL.

A report appeared in one of the local papers (Greek) that a mule had foaled. As this is considered almost an impossibility it was received with unbelief. The Government here, being interested ordered me to proceed and examine it. I will confess I proceeded biased against the idea, as I have been in similar cases before but never found them true.

On 5th of present month I examined it and found it a genuine mule. Should say it was bay with black points, six years, 23-2½ h.h. This foal is the second: the first was a filly, last year. This one is a male. The first died after two months, the second lives. The mule was bred from a she-donkey, and the foals from her are by a jack donkey. No special marks or stripes; and in my opinion a very good type of mule. I may say that the Island is noted for its good mules and I examine many.

Circumference of knee 11 inches.

Length of metacarpal 7½ "

Circumference of sub-carpal 8 "

This is by no means the average of our donkey measurements. The mule was giving milk, and I saw the foal suckling. The foal somewhat resembles a young donkey, but bigger. I leave it to scientists to account for, but can vouch for the dam being a genuine she-mule.

I enclose a photo.

G. J. HARVEY, M.R.C.V.S.

Government Veterinary Surgeon.

Nicosia, Cyprus. July 16.

COCCIDIOSIS IN CATTLE IN NORTH DEVON.

By R. G. LINTON, M.R.C.V.S., Barnstaple.

This condition is considered distinctly rare in Great Britain, but probably many outbreaks occur, and their true cause is overlooked on this account.

As most practitioners are aware, the class of protozoons known as the coccidia is the cause of serious outbreaks of disease in rabbits, and occasionally in pheasants, turkeys, and other farm-yard poultry. An excellent account of the coccidiosis, written by H. Gray, is to be found in Hoare's System of Veterinary Medicine, 1913.

A considerable amount of doubt seems to exist as to the identity of the various species of coccidia which have been named by different authors. Doflein (*Lehrbuch der protozoen Kunde*) a well known German protozoologist, is of opinion that *Cocci tenellum*, *C. acutum*, *C. perforatum*, are one and the same parasite, affecting almost all classes of birds. *C. oviformis*, *perforans*, or *cuniculi* he considers to be a distinct variety, and further to be the same as the parasite described as *C. bovis* by many veterinary authors (Railliet, Jowett, Ostertag). These details though most important can only be decided by careful research, and the writer is here

only concerned with the clinical features of the present outbreak.

With regard to the disease in this country the only mention of its occurrence I have been able to find is by Gair, of Cononbridge, Ross-shire (*Journal of Comparative Path. and Therap.*, vol. xi., p. 171 *et seq.*)

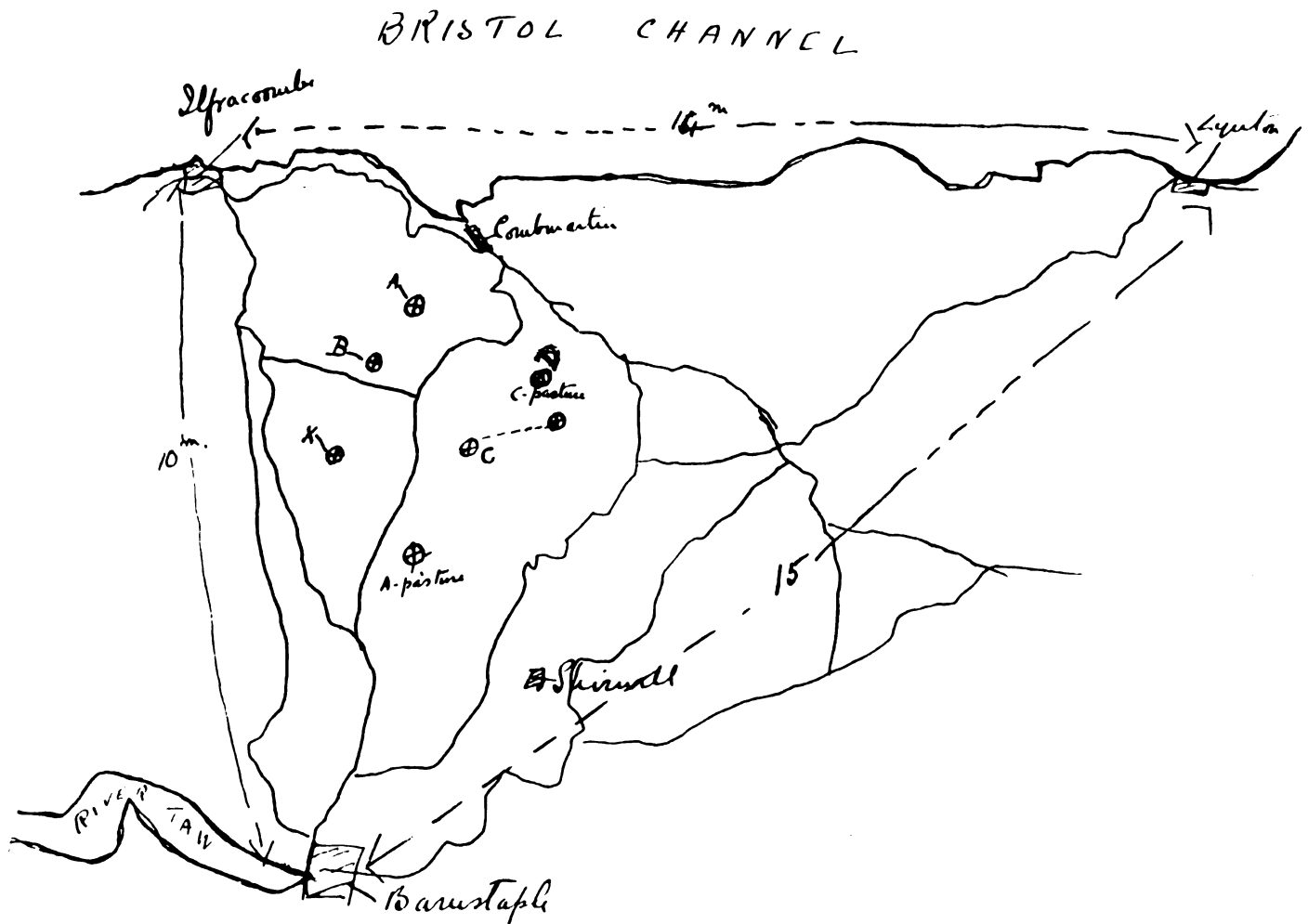
In this outbreak several animals were attacked, and of these some showed peculiar features. There was a suppurating of the udder, and a swelling of the fore and hind limbs terminated above, quite sharply, by the knee and hock. Specimens of one case were forwarded to M'Fadyean, who states in a footnote to Gair's article that he found numerous coccidia in scrapings from the mucous membrane of the portion of the large intestine sent him. As to the species of coccidium he makes no mention, though Gair speaks of them as *C. oviforme*. The cases occurred in Polled-Angus cattle, but coccidia only appear to have been definitely found in one case.

All the cases which have come under my own observation have occurred in Devons, and the affected area lies roughly inside a triangle, of which the angles lie at Lynton, Barnstaple and Ilfracombe,

and the history of the outbreaks can best be followed by reference to the accompanying map.

The disease, or rather the appearance of cases of dysentery in cattle and young stock each summer, seems to have been familiar to some farmers in this district for many years. My attention was first called to it in July, 1911. At this time I was consulted about an animal on farm X, showing the following symptoms: arched back, straining, profuse diarrhoea, faeces freely mixed with blood, and temperature slightly raised. The case was treated as one of acute digestive disturbance. The animal died a few days later, and I was unable to make a post mortem examination.

In 1912 an outbreak occurred on Farm A. The owners had been in possession here for about 14 years, and had not encountered any similar trouble with their cattle. The affected animals were pastured on high dry land marked on map A. (pasture). They were found ill and brought back to the farm, where out of eight affected three died. The symptoms shown were the same as in the case above, while in addition tympany was present in two or three of the affected beasts, and the temperature rose to 105° F. No post-mortem examination was made.



Early in the present year I mentioned these cases to my friend, Mr. G. L. Ingram, when consulting him about the occurrence of Johne's disease in the neighbourhood, and at his suggestion I was led to examine the faeces of the cattle for coccidia at the first outbreak this summer.

The first case this year was seen on farm B. (separated from farm A. by one field) in a heifer 18 months old, and later another case occurred in a young steer 14 months old. The owners have been on this farm for 30 years and have never seen any animals with a similar illness. There are about 15 adult animals, and the same number of young stock on the farm.

Rabbits are plentiful on both farms, and there is a large number of pheasants in the neighbourhood, but no history of disease in either. Sheep, pigs, and poultry on these farms are also healthy.

The heifer was bought as a calf from a farmer in the same village. When first seen by me on July 3rd she showed symptoms of cerebral trouble. She was restless, bored with her head against a wall, had incomplete control of her limbs, and profuse bloody diarrhoea. Her temperature was 102.5 F., and her heartbeats weak and irregular.

On making a microscopic examination of the faeces, innumerable oocysts could be seen in every field, no stain being necessary. This animal died on the morning of July 6th, and a post-mortem examination was made the next day, portions of the various organs being preserved.

A second case occurred on this farm a few days later in a yearling, the only symptoms being dysentery and a slight grinding of the teeth. The temperature was 102.5 F. This animal has gradually recovered.

The next cases occurred at Farm C., the animals being pastured at C. pasture. Two yearlings were first attacked. Again the temperatures were normal, and no other symptoms were apparent except the diarrhoea and passage of blood with arching of the back and some straining at each motion of the bowels. Out of six yearlings on the pasture four were taken ill, brought home to the farm, and isolated. They are now convalescent. In all cases coccidia have been present in the faeces in great numbers. The owner has frequently had the disease on his farm, and has lost a lot of young animals owing to it.

I shot a few rabbits on the farm and found the livers of three half-grown ones to be extensively infected with oval coccidia.

More recently I have been called to farm D. This adjoins C. pasture, and the owner has no recollection of any such affection during the last 24 years. He has 17 young beasts, and of these at the time of writing three are affected, coccidia being easily demonstrable in all. One animal, which had been ill for a week before I was consulted, showed cerebral symptoms, exactly as in the first case on farm B. All now show signs of recovery.

Some authorities suggest that the cerebral symptoms and high temperature are due to the parasites denuding the bowel of its epithelial lining and so allowing secondary infection and toxin absorption.

Referring again to Gair's cases, it is of some

interest to note that I have at present a three-year-old in-calf cow showing painful swelling of the limbs, marked mammitis, a temperature of 105° F. and some difficulty in rising, but up to now no signs of diarrhoea. This case is some ten miles from the affected area.

From a meat inspection standpoint, Ostertag (Handbook of Meat Inspection) mentions that the meat of animals subjected to emergency slaughter on account of "red dysentery" as it is called in Germany and Switzerland, is always admitted to the markets and eaten without any bad results. This is an argument against the parasite resembling *C. oviforme*, which has been found in cases of coccidiosis in man, being identical with the coccidium in these cases or with that of the rabbit.

I have to thank Dr. C. C. Twort (Beit Memorial Fellow) of the Brown Institution, for kindly confirming the presence of coccidia in faeces and in sections of affected intestine, and I hope later to be able to supplement the above brief notes.

ABSTRACT FROM FOREIGN JOURNALS.

THE RELATION OF ANIMAL FAT TO TUBERCLE BACILLUS FAT. — W. C. WHITE and A. M. GAMMON (*Jour. Med. Research*, 26 (1912), No. 2, pp. 257-266).

In this paper the results are reported of a preliminary study of the behaviour of various animal and vegetable fats—stearic acid, palmitic acid, linolic and linoleic acid, and butter and human fat—with tubercle bacilli growing on glycerine agar. Olive oil was used as a source for the oleic acid, palm oil for the palmitic acid, linseed oil for the linolic and linoleic acids, and beef suet for the stearic acid.

On the basis of the results obtained, the authors suggest an explanation for the caudal lobe lesions in cattle, and the apical lesions in tuberculosis of man, as follows:—The pulmonary artery, before dividing into the right and left pulmonary branches, forms a great bay of blood bounded by a very elastic wall. The blood in this portion of the pulmonary artery must move with comparative slowness, because of the short circuit which it makes in comparison with the long circuit made by the general aortic quota of blood. In this great bay the blood is loaded with fatty derivatives of low specific gravity compared with the whole blood. Owing to the slowness of the current, these compounds have a chance to rise to the surface of the stream, so that the upper layer of blood in the pulmonary artery should have a much larger content of fatty compounds than the lower one. At the highest point of this main blood stream in man the vessel arises that supplies the apex of the upper lobe on either side, so that if the theory advanced be correct, this vessel should be the vessel most laden with the fatty compounds of low specific gravity which are being poured into the pulmonary stream of the liver mechanism. "This view, coupled with the results of our experimental work

so far completed, which shows that the tubercle bacillus makes use of these compounds for its more abundant growth, seems a most reasonable explanation of its more prevalent development in the apex of the upper lobe."

TOXIN FORMATION BY THE ANTHRAX BACILLUS.—

A. MARXER (*Ztschr. Immunitätsf. u. Expt. Ther.* 1, *Orig.*, 13 (1912), No. 4, pp. 309-328).

Asporogenic anthrax bacilli produce a heat-stable endotoxin in large amounts. Spore-forming varieties yield the toxin only in small amounts. By injecting this toxin into animals, symptoms are produced which simulate those produced by Friedberger's anaphylatoxin, or from an extract of the typhoid bacillus (Aronson's extract). The urine from the animals treated with the endotoxin and presenting the symptoms of shock, when injected into other subjects produces typical anaphylaxis. As with the endotoxins of some other bacteria, the treatment of animals with the endotoxin produces no antitoxin in the blood.

DIAGNOSIS OF ANTHRAX WITH AID OF THE BONE MARROW.—F. WULFF (*Berliner Tier. Woch.*) 28 (1912), No. 24, pp. 421-423.

The bone marrow taken from either the diaphysis or epiphysis can be used for detecting the presence of the anthrax bacillus for the purpose of diagnosing the disease. The method proposed gave positive results in instances where the blood or spleen was negative.

F. E. P.

AUTO-SEROTHERAPY IN EQUINE PLEURISY.

Haan has published (*Revue Gén. de Méd. Vét.*) an article upon this subject. Auto-serotherapy in sero-fibrinous pleurisy of the horse is not a new therapeutic method, but it seems to be little applied by practitioners.

Haan has obtained such good results with it that he advises all to have recourse to it. Without claiming infallibility for it, he says that it has enabled him to obtain miraculous recoveries in cases that seemed hopeless.

Haan briefly reviews the clinical evolution of pleurisy—complete anorexia, violent fever, and injected mucous membranes. It is only about the fourth or fifth day of the malady that it is possible to discover an effusion and to attempt its puncture. Often the pleurisy only appears later, being a sequence of pneumonia.

The author lays stress upon one sign, which he regards as being of capital importance in diagnosis. This is the behaviour of the temperature, which remains stationary and invariable at 39° C. (= 102.2° F.) without any fluctuation during the formation of the exudate. The two signs of the temperature and the contracted fascial expression of the animal suffice to establish the diagnosis. The eyes appear to project from the orbits; and the wings of the nostrils show a characteristic saw-saw movement, in which the action of the great super-maxillo-nasalis muscle may be distinguished

with extreme clearness. This dilatation of the nostrils is totally different from that which is observed in pneumonia. After the appearance of these symptoms, the clinical examination of the chest rarely fails to corroborate the diagnosis of thoracic effusion.

In addition to the classic methods of treatment (caffeine, digitalis, diuretics, vesicatories, etc.) Haan has always practised thoracentesis followed by auto-serotherapy. He withdraws by puncture as much as possible of the thoracic liquid, and then injects at least 40 c.c. of it into the subcutaneous connective tissue. From the day after this measure there is a sudden amelioration, shown by a return of the appetite and a very distinct fall of the temperature. If necessary, the operation is repeated at the reappearance of the effusion.

By this method, applied early before the liquid is transformed into pus and before the formation of coagula and of adhesions, it is possible to save nearly two-thirds of the patients. In favourable cases, the resorption of the effusion is complete in from six to ten days.—(*Annales de Méd. Vét.*)

W. R. C.

THE CENTRAL VETERINARY SOCIETY.

The ordinary monthly meeting was held at 10 Red Lion Square, London, W.C., on Thursday, 3rd July, Mr. J. W. McIntosh, president, occupying the Chair.

The following Fellows signed the attendance book:—Messrs. R. J. Foreman, G. Gordon, Vet.-Capt. G. Rees-Mogg, H. J. Parkin, R. Eaglesham, J. B. Buxton, R. Bryden, J. Willett, W. Perryman, P. W. Dayer-Smith, W. S. King, A. E. Willett, H. D. Jones, C. H. Sheather, B. Gorton, A. L. Wilson, F. W. Willett, Prof. J. Macqueen, S. H. Sloccock, Prof. E. B. Reynolds, W. R. Clarke, N. Almond, T. C. Garry, H. K. Roberts, Prof. F. Hobday, F. J. Taylor, L. Auchterloine, Col. L. J. Blenkinsop, R. A. Philp, P. S. Howard, C. E. Wells, Guy Sutton, W. R. Davis, A. E. Gostling, and Hugh A. MacCormack, hon. sec.

Visitors: Messrs. E. L. Siddall, E. L. Dixon, W. B. Nelder, R. B. Nelder, A. R. Routledge, W. Robinson, H. Sumner, G. H. Banham, J. Dunstan, R. D. Williams, T. C. Toope, J. McKinna, Capt. H. S. Mosley, G. P. Male, and T. M. Parker.

On the motion of Mr. Almond, seconded by Mr. Willett, the minutes of the last meeting were taken as read and confirmed.

CORRESPONDENCE.

Letters regretting inability to attend were received from Messrs. T. S. Price, G. H. Livesey, C. Roberts, and A. E. Payne.

A pamphlet had been received from Mr. A. S. Leese, M.R.C.V.S., camel specialist, Civil Veterinary Department, Sohawa, India: "Some more successful experiments on the treatment of surra in the camel, with recommendations for systematic treatment."

The SECRETARY, on the motion of the President, was instructed to acknowledge the receipt of the pamphlet and thank Mr. Leese.

MORBID SPECIMENS.

Mr. SLOCOCK exhibited a testicle (sent to him by his son) weighing 7½ lbs. removed after death from a three-year old colt which had been relieved of the other testicle when he was a yearling. His son, while acting as *locum*, was requested to castrate the colt in the way

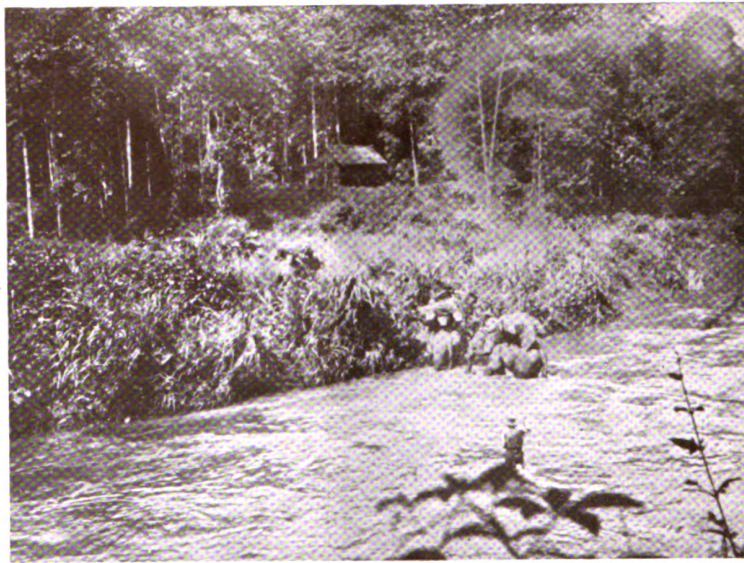
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MARE MULE WITH FOAL.

Illustrating note by G. J. Harvey, Govt. V.S., Nicosia, Cyprus.

TO THE
ASSOCIATION



CROSSING A RIVER ON ELEPHANTS IN INDIA.

From photos by Mr. F. Ware, I.C.V.D. (p. 70.)

he thought fit, as the colt was useless in his present condition. He was told the testicle had been in the scrotum, and that it had been visible. He was doing the operation standing, and on manipulation he felt a body which did not seem to him quite of the nature of a testicle. He cut into it, and a little fluid spurted out. He explored the inguinal canal with the hand as far as he dared, and, feeling nothing, he decided to cast the colt. Previous enquiries as to whether there had been any sign of rupture elicited a negative reply. During casting, several feet of intestines presented themselves. He then explored *per rectum*, but he could find no sign of an abdominal testicle. The intestines had got into a dirty condition. He advised the owner that the only thing to do was to kill the colt, and on that being done and a post-mortem examination being made the testicle exhibited presented itself just above the colon. His son desired Prof. Macqueen to accept the testicle at the conclusion of the meeting. He hoped some of the members would be enabled to throw some light on the question of what the nature of the disease was.

Mr. H. A. MACCORMACK exhibited a specimen of the trachea of a turkey about eight weeks old, from which it would be seen that the tube was simply crammed full of gape worms. Gape worms were found in all domesticated birds; he had also found them in the starling, and about two months ago he found them in a thrush, the interesting point in connection with the latter being that it was a hand-reared bird, about ten weeks old. How the worms got in he could not form an opinion.

Prof. F. HOBDAY said that by a curious coincidence he happened to have had four cases of very large cryptorchid testicles during the last four months. Two of them were nearly as big as the specimen shown, and one was quite as big. They were all in the abdomen. The one which was just about the same size as that shown was of especial interest because he could not get it away except by breaking it up into pieces. When he got his hand inside, he could feel a huge thing which he could not lift up with one hand. He scratched at it for some time with his nail, and managed to rupture one of the cysts, but eventually he took a small Symes' knife, carefully introduced it in his hand into the abdomen with a portion of the blade wrapped with wadding, and after using it pulled the testicle out in three pieces. That testicle had inside it pretty nearly every abnormality met with in "rig" castration. It was enlarged by tumour tissue; it was cystic; it had some teeth; it had some pieces of bone; a perfect specimen of the *strongylus armatus* worm; the only thing that was missing, which was sometimes found in these specimens, being hair. Each case had done well. In all such cases for the last three years he had never even washed the skin; they had each been painted with iodine, which had been allowed to dry on, and that was all the preliminary treatment they had.

ELECTION TO COUNCIL OF NATIONAL ASSOCIATION.

The PRESIDENT reminded the Fellows that the subject of the election to the Council of the National Association was brought before the last meeting, and deferred in order that the matter might be inquired into, owing to an objection raised by one of the Fellows. The Secretary communicated with Prof. Gofton of Edinburgh on the subject, who had sent the following reply:—

"Yours was duly received, your representatives to the Council N.V.A. should have been elected, and their election intimated to the General Secretary 'not later than April 30th of the current year.' This addition to the rule with respect to date was made in proper form at last annual meeting. The newly-elected representatives take office at the termination of the annual general meeting."

The Society was therefore quite in order at the last

meeting in proposing to elect members to the Council and he would now be glad to receive nominations.

The following gentlemen were nominated and duly elected as representatives of the Society to the Council of the National Association:—Messrs. J. W. McIntosh, R. J. Foreman, S. H. Slocock, Prof. J. Macqueen, W. R. Davis, and J. Willett.

DEMONSTRATION OF A NEW ELECTRICAL APPARATUS FOR THE ADMINISTRATION OF CHLOROFORM VAPOUR, AND DESCRIPTION OF A CHLOROFORM MASK, SUITABLE FOR THE HORSE EITHER WHEN STANDING OR CAST.—By Prof. F. HOBDAY.

Prof. F. HOBDAY, in giving the demonstration, said that some fourteen years ago he introduced to the Society of Anaesthetists a little apparatus which was originally intended for the administration of chloroform to small animals, and he claimed for it at the time that any man with an average amount of knowledge could safely anaesthetise the dog without running any very grave risk. As a student he was always taught that the dog was an animal which could not be chloroformed with safety. On getting his Professorship at the College, for two years he worked with the object of proving that the dog could be chloroformed with safety, and it was everywhere acknowledged at the present day that the dog was one of the best subjects for chloroform anaesthesia if only the chloroform was given in the proper manner. In his early days he was taught to give the chloroform either with a drop bottle, or more commonly by putting some on wadding which was held to the dog's nose, the dog being held by one or two men instead of being in a proper position for the lungs to have free expansion, and over and over again death was the usual result. When his little apparatus was shown to the Society of Anaesthetists, it was very favourably received by several of the best human medical anaesthetists as of value for women and children. It gave, according to calculations made by Dr. Symes, from 1.9 to 2 per cent. of chloroform vapour, thoroughly mixed with air, in such a way that the vapour was practically regular throughout the whole of the chloroformisation. Another advantage was that instead of having chloroform dropped on to lint, and being apt to cause blistering on the part which it touched, it was impossible to have any effect of that kind, because only the vapour was administered. The chief disadvantage was that the manipulation of the rubber ball made one's wrist ache. At that time he had a battery which worked a pump, by means of which he administered chloroform in a similar manner to the new electrical apparatus he was about to describe, but it was continually getting out of order, and he had not time to then complete the idea. A short time ago he again took the matter up, and with the help of certain ideas from an electrician, a small portable apparatus had been evolved, which could be used in country places by medical men or veterinarians for anaesthetising a patient in a house where electrical energy was not available, merely by going to the trouble of carrying the weight of the accumulator. Except for the accumulator and a small motor, there was practically nothing else for the doctor to carry, and if he was going to a house where electric light was installed, provided the voltage was right, the accumulator was not necessary, as there was no difficulty in fixing a connection into one of the lamp sockets. Some little discussion arose in regard to the bottle, as to whether the amount of vapour which came over was constant. In order to get over that difficulty, a little bottle had been made on the same principle as the ordinary siphon chicken feeder, by means of which the chloroform was kept at a constant level. It was fitted on to the side of the little motor, and when the current was put on, a constant stream of vapour was obtained without any

labour; while by means of the regulator, from 1·5 up to 5 per cent. could be obtained with exactitude.

The horse chloroform mask he exhibited was one he happened to see a short time ago when operating at Exeter in consultation with Mr. Nelder. He was particularly struck with the fact of how very quietly the animal took the chloroform from Mr. Nelder's mask, and how very quietly he went down. In this particular case the mask was put on a hunter about 17·1 hands high, in his box, not outside; it was allowed to remain on for about ten minutes, ten minutes being the average time; the animal was then taken out into a small yard and did not give the slightest trouble. It would be seen that the mask consisted simply of a canvas nose-bag, with holes at the bottom, and a piece of felt, which was eventually curved with a removable leather bottom.

He also exhibited a mask which Mr. F. J. Taylor had used a great deal, which varied in pattern from Mr. Nelder's, and as Mr. Taylor was present that evening he would explain its principle.

Mr. W. B. NELDER stated that he had the muzzle made for chloroforming colts in the standing position. The canvas bag with the holes in the bottom is put on first, a restive colt does not object to it as he can breathe quite easily through it, so does not frighten him. The animal is then led out into the operating yard. The leather tray with a thick piece of felt, to the latter two or three ounces of chloroform having been added, is quickly attached by the two buckles to the bottom of the muzzle. In some cases the complete muzzle, with chloroform, can be fixed on in the stable, and the animal then led out. You will find your patient will not fight in the least if he is allowed to have his head. Do not pull him about, he will go round in a ring and then go down quietly. That is the secret, if any. By the time the operator has his instruments ready the colt will be ready to go down. Of course, some animals take more chloroform than others; when this is the case, add a little more chloroform to the felt; some animals, too, take longer to go under.

If you wish to exclude the air completely, just wrap a towel round the muzzle. This apparatus is not elaborate in any way, it is quite a simple little affair, but is a very useful thing for a veterinary surgeon to have, especially in a practice where help is scarce, and he has to tie the colts himself.

Mr. F. J. TAYLOR, London, in describing his muzzle, said it was a very cheap one, as it cost only about 7s. 6d. or 10s. It was, he thought, a slight improvement on the old Cox muzzle, inasmuch as it had a septum of galvanised perforated metal in the centre, which prevented the chloroform from coming directly into contact with the end of the horse's nose, and also prevented the mucous discharges from the horse's mouth and nose saturating the wool, and so hindering proper evaporation of the spirit. It possessed other advantages over some other patterns, inasmuch as the horse's tongue could be got at if necessary, and the metal disc when in use blocked the leather cylinder away from the nostrils, and allowed of free inhalation, and when not in use the fact of its being on hinges allowed the muzzle to be packed quite flat for carrying.

Mr. SHEATHER remarked that in about 1879 his father invented an apparatus on similar lines to that shown by Prof. Hobday, only it was worked by foot bellows. He had to give it up because the labour of pumping with the feet was just as great as pumping it with the hands, but the apparatus was very similar in construction to Prof. Hobday's.

Colonel BLENKINSOP said that some twenty-three years ago, with the late Colonel Nunn, he used at the Lahore Veterinary College an apparatus for chloroforming horses very similar to that shown by Prof. Hobday, except that in their case the air was driven through the chloroform instead of over it. They brought the

apparatus home and found that a few weeks before their arrival a similar apparatus had been made in England. Twenty-five or thirty years ago he was probably using chloroform more frequently than anybody else in the profession. At that time he operated upon hundreds of castration cases, and he never saw an accident to a horse under chloroform with any sort of apparatus. It is different, however, with dogs. He congratulated Mr. Nelder on producing such an excellent muzzle. He confessed he had had very little success personally when chloroforming horses standing, and up to now he would prefer to throw a horse before administering an anaesthetic, but with Mr. Nelder's muzzle he hoped to be able to administer chloroform without casting patients. He congratulated Prof. Hobday on his apparatus. It must be borne in mind in giving chloroform to a horse that as a rule the sooner the patient was got under the anaesthetic, the sooner he came to. If a long time was taken in giving the chloroform, the horse was a long time recovering.

In reply to questions by Mr. Willett, Prof. Hobday stated that the price of a single apparatus would be, as far as could be at present estimated, £2 or £2 10s., with £3 3s. as the very utmost. The battery lasted for twelve hours, but it would not be necessary to use a battery where electrical energy of the proper voltage was available, and by having a little addition to the apparatus it was possible to adopt it to any of the different voltages which existed.

Mr. ALMOND said he remembered when he was a student seeing horses chloroformed standing, sometimes with disastrous results, not only to the horses but to the men in charge of them. It is important that the Fellows should understand how it was that in the hands of some practitioners the very greatest trouble was met with under those circumstances, while in the hands of others the procedure was perfectly satisfactory. Mr. Nelder's view that that the trouble arose from the restraint put upon the horse, whereas if the horse was chloroformed and allowed its freedom, except for being on a loose halter, it quietly laid down and gave no trouble.

Prof. MACQUEEN raised the point as to whether the present discussion was in order, seeing that the agenda stated that a paper was to be read upon "The Veterinary Profession and the Animals Anaesthetics Bill." He suggested the paper should be read first, and in the following discussion incidental remarks regarding chloroform muzzles could be included.

The PRESIDENT thought it would expedite matters if the paper was read, although he was of the opinion that the discussion up to the present had been quite in order.

"THE VETERINARY PROFESSION AND THE ANIMALS ANAESTHETICS BILL"—By Prof. F. HOBDAY. [This appeared at p. 56.]

DISCUSSION.

Mr. J. DUNSTAN, in opening the discussion, thought the paper was of interest to country as well as to town practitioners. Country practitioners were faced with a good deal of practice by unqualified practitioners, which was increasing rather than diminishing. By means of Prof. Hobday's apparatus greater facilities would be obtained for producing anaesthesia. Some of the elaborate appliances shown were quite unnecessary to owners of motor cars, because by means of a little switch to the motor car they could easily generate the power. The apparatus was a great improvement on the old hand-bottle method, especially the being able to increase the proportion of chloroform up to 5 per cent. The small percentage of chloroform obtainable from the old bottle necessitated a great amount of time being spent in anaesthetising a large animal, and matters were sometimes hurried by means of a saturated plug. He

had an exceedingly useful chloroform muzzle which was given him by a New Zealand practitioner, which he hoped he might be allowed to exhibit on a future occasion. He was very glad to find that someone was taking an interest in the Anaesthetics Bill with the object of getting the promoters to look at the matter from the veterinary side, because some of the suggestions made in the original draft were utterly ridiculous, and it was easy to understand the feeling which promoted agriculturists and farmers generally to protest against its provisions. The administration of chloroform to a fairly old bull was unnecessary. He was recently asked by a farmer to watch him operate upon a dozen bulls about a year old. The bulls were tied up side by side in an ordinary byre, with a man holding them by the nose and horns. The man walked behind them with an ordinary scalpel, made a slit into the scrotum on one side, letting out the testicle, and then on the other, letting out the other testicle; he tied a wet piece of ordinary worsted round, and just cut them off with his knife. In only one case did the animal move, in fact the animals did not seem to resent it at all. He was very much struck with the standing operation on the bull; it was the first time he had seen it performed.

Capt. REES-MOGG asked if the Members of Parliament who drafted the Bill did it with the assistance of any members of the veterinary profession. If not, to ask the veterinary profession after the Bill had been drafted to consider the matter, was a little late in the day. The veterinary profession should have been consulted before the Bill was drafted.

Col. BLENKINSOP said that he had been in the fortunate position of being able to use chloroform or any other anaesthetic in operations on animals whenever he considered it necessary to do so, and had not had to consult clients. He thought the veterinary profession should go very warily in opposing or adversely criticising this Bill. Public opinion was daily growing stronger against the infliction of unnecessary pain on animals. Veterinary surgeons should be encouraged by this, as the primary object of their profession was to succour animals. They should be the first to advocate the more general use of anaesthetics. He could not understand how any person could logically say that the necessity of administering anaesthetics to horses could be limited to those of two years and over. Colts under that age were capable of suffering acute pain. The fact that a horse would eat immediately after an operation was no evidence that it was not suffering pain. A horse in pain would often eat in order to endeavour to relieve its suffering, in exactly the same way as a wounded man would smoke.

He had castrated horses of all ages, and he objected to castrate any horse without administering a general anaesthetic. He considered the standing operation—the gymnastic operation—was not surgery. A great deal too much was made of the danger of throwing horses and administering chloroform. If statistics were studied it would be found that accidents only occurred in a number reaching a decimal point per thousand of horses cast and placed under chloroform, if this operation was carried out with proper care and with trained assistants.

He thought the profession should have been consulted when the Bill was being drafted, and that it should now uphold its dignity as a profession by insisting on being consulted. The profession suffered greatly from having none of its members in the House of Commons, an old grievance which constantly cropped up when questions affecting animals were the subject of legislation.

Mr. W. R. DAVIS did not believe it was the intention of the profession to offer any great opposition to the measure. At same they must be allowed a great deal

of discretion as to what anaesthetic should be used and what operations it should be used in. For instance, nothing was said about the administration of chloroform in cases of parturition, or inversion of the uterus in mares or cows, or cases of colic, where there was ten times more suffering than in castration. The Bill would give a handle with which to control the quacks, who did far more to cause suffering amongst animals than would be brought about by giving veterinary surgeons discretion to use chloroform or not as they thought proper. He did not agree with Professor Hobday that when a horse was castrated standing, it was all over. If caustic clamps were put on, it was not over by any means, so far as pain to the animal was concerned. With regard to animals apart from horses and cows, veterinary surgeons should be allowed to say whether they would give chloroform or not in those cases. The degree of narcotism produced was another point that had to be considered. Chloroform could be given to a horse, and as much trouble and pain be obtained as if he had been given none at all. If quacks especially were to be allowed to give it, what was to prevent them buying a chloroform muzzle, putting on half a gramme or one gramme of chloroform and letting the horse have a sniff at it and say chloroform had been given?

On the motion of Mr. Almond, seconded by Mr. Jones, it was resolved that the meeting should be prolonged in order that the discussion on the paper might be concluded.

Prof. REYNOLDS thought it would not be advisable for the veterinary profession to make a lot of objections to the Bill, because the public would think they were against the use of anaesthetics. Mr. Davis had suggested that the Bill should be allowed to pass because it would give a leverage against the quacks. To accomplish that purpose it would be better to pass a Bill to prevent unqualified men doing any operation at all on animals, but to tie veterinary surgeons down to what operations they should perform under an anaesthetic and to what anaesthetics they should use was more or less absurd. The Bill, it had been said, had been promoted without prejudice against qualified veterinary surgeons, but the preamble stated that it was a Bill to make further provision for the protection of animals from cruelty, which was a direct accusation against veterinary surgeons of causing cruelty to animals. If the promoters had consulted veterinary surgeons before drafting the Bill they would not have made a number of the mistakes that have occurred. He believed the original Bill was conceived in the Officers' mess of a Territorial Yeomanry regiment, where the officers discussed with the veterinary officer various operations that are performed and the anaesthetics that are used. The first Bill was so unworkable that it was certain not to go through Parliament. After some veterinary surgeons had been consulted, a great improvement was made in it. He agreed that veterinary surgeons should not object to the Bill on the ground that they objected to using anaesthetics, but should object to it on the ground that they should be compelled to use them and told the operations for which they were to be used, so allowing them no discretion. A point in connection with the Bill was that animals were looked upon from the commercial side; the value of an animal entered into the consideration of the owner, and if there was going to be any increased risk of accidents it made a tremendous difference. Col. Blenkinsop had referred to the standing operation, which he had called gymnastic, and which he had described as being non surgical. Mr. Davis had referred to it as acrobatic. Personally, he happened to be an advocate of the standing operation, and he was quite certain that it was not acrobatic nor gymnastic, and that it was just as surgical as the ordinary operation done on the ground.

Mr. DAVIS, interposing, said that his objection to it was that the pain was not over when the clams were put on.

Prof. REYNOLDS, continuing, said that while that statement was more or less correct, the operation was not always done with clams. He did not say the horse suffered less pain during the actual operation when castrated standing than when castrated on the ground, but if the sum total of pain that he suffered was taken into account, it was less when the operation was done standing than when the animal was cast. He desired to know who was going to see that the Bill was carried out if it became law. Who was going to certify whether the animal was or was not under complete anaesthesia while he was operated on? ("The Police.") He believed that neither policemen nor inspectors of the Society for the Prevention of Cruelty to Animals were allowed to walk on to private property, and he thought something more definite should be stated in regard to the carrying out of the measure.

Mr. TOORE inquired whether any law existed relating to what operations should be or should not be performed by medical man, under chloroform; and if there was none, why there was none?

The PRESIDENT desired in the name of the Society to thank Prof. Hobday for introducing the subject, and thus giving an opportunity of discussing the Animals Anaesthetics Bill. It was extremely unfortunate that the profession had not been taken into account when the Bill was framed. The matter was kept in the dark for a very considerable time. He was quite sure no veterinary surgeons had any desire to block the path of human progress, but surely for a body of laymen to introduce a Bill of this kind and ignore the profession in framing it was altogether absurd. The provisions of the existing Bill he thought sufficiently wide and definite to cover the matter. A good deal had been said on the subject of castration. He had done a good many colts in his day, and had always done them standing, being a great believer in the standing operation, because he thought the animal suffered less than when cast and chloroformed. He used the caustic clamp with the greatest success, and whether it be good surgery or not—nothing succeeds like success. After the operation was completed the animal went and took his food as if nothing had happened. In some cases it would be found that after the effects of the anaesthetic had passed off—when anaesthetics were used, there was a considerable amount of pain, so that pain was present in animals that had been operated on under anaesthesia as well as those which were operated on without it. He resented being told when to use an anaesthetic and in what operation. Even if the Bill passed, who was to see its provisions were carried out. No police officer or other officer has power to enter private premises unless they had an order from the magistrate, and then they must have some suspicion that cruelty was being perpetrated. There was no machinery for carrying out the Bill even if it became law, and it would be necessary to trust to the profession even then.

Prof. MACQUEEN strongly agreed with what had fallen from Colonel Blenkinsop. He thought the question was one upon which the veterinary profession should not take sides as against the administration of general anaesthetics. There was no operation that could be performed without anaesthetics that could not be performed under anaesthetics, and although there was a disposition on the part of the promoters of the Bill to exempt very young animals from operations under general anaesthesia, to be logical, both the young and the old should undergo that method of restraint. The President stated that the veterinary profession was founded upon humanitarianism. Upon that foundation a very large edifice of commercialism had been raised, and the difficulty of the profession in approaching the

question was very similar to that which affected some of the Marconi speculators. They were not sure whether by supporting the Bill it would be considered speculation or a professional investment, but he thought the promoters of the Bill ought to be given, he would not say their undivided support, but their moral support in the statement that general anaesthesia was always advisable. That was the attitude the members of the veterinary profession were sure to take before the public, whatever the practice behind the scenes might be. Professor Hobday had referred to some information supplied to him by two lay promoters of the Bill. He agreed with the President that if the promoters desired to produce a Bill which would meet with the general approbation, not only of the veterinary profession but of the cattle-owning public, they ought to have consulted some modern veterinary practitioners.

He understood that one aim of the Bill was to leave the question largely to the Board of Agriculture; the Board of Agriculture were to determine what operations should be performed under a general anaesthetic, and what operations might not be so performed. The regulations would be carried out under the supervision of the police. Notice would have to be given when an operation was to be performed; the policeman would attend just in the same way that he paid a call when swine fever broke out. His advice as an individual member of the profession was that the less that was said about the Anaesthetics Bill in the meantime the better. Let it take its course, and when it becomes law they could treat it accordingly.

The PRESIDENT, interposing, said it would be too late then.

Prof. MACQUEEN said that late or not it would not seriously affect practice. Unless a policeman was appointed, or notification was made compulsory, there was no one to see how far the anaesthesia had been carried. Anaesthesia to one individual in the profession was a very different thing from anaesthesia to another. It seemed to him they were only wasting time trying to modify a Bill which was not likely to see the Statute Book until a new Government was in power.

Prof. HOBDAY, in reply, said that he understood all the speakers were unanimous in favour of a Bill which would increase the use of anaesthetics for operations on animals, or even compulsorily cause the application of anaesthetics to all painful operations. But the thing which had touched everyone to the quick was that they were being told to toe the line in a manner which they could not do, and which they ought not to be told to do by men who did not know as much about the question as veterinary surgeons did. There was not the slightest doubt that if the Bill became law it would be of benefit to them as a profession. It would not only raise their status by compelling owners of animals to come to veterinary surgeons to have their operations performed in a humane manner, as opposed to the way in which they were conducted all over the country at the present time by quack operators, but there was no question that pecuniarily it would be beneficial to them, although, of course, they did not really look at it from that point of view. The point which had been raised by Professor Almond in regard to the simplicity of Mr. Nelder's mask had struck him greatly. It was the absence of the feeling of restraint and suffocation which formed its practical value. With regard to the question as to whether members of the profession were consulted before the Bill was drafted, he only knew what he had read to them that evening from the letter of one of the chief promoters of the Bill. If the original Bill had been passed, the veterinary profession would have been tied hard-and-foot, and there would have been as much stir in their little profession as there was over the whole of England at the present moment in regard to another Bill. Professor Macqueen raised the point of the

exemption of the young animal. He agreed with Prof. Macqueen that the young animal had just as much right to have its pain respected as an old animal. That was another instance why veterinary surgeons should be given discretionary powers, and should not be told that they must use such and such an anæsthetic for any particular operation, because the young animal was more susceptible to the influence of general anæsthetics, and in some instances it was not wise to use chloroform. In his opinion the word "satisfactory" should be substituted for the word "general" anæsthetic in the Bill. That would give the veterinary surgeon power to choose whether he would give a general anæsthetic such as chloroform, or use a local anæsthetic, and so long as pain was really abolished the aim would be fulfilled. He disagreed with Professor Macqueen's remark that time was being wasted in discussing the Bill at the present moment. If it was left until the Bill became law, it would be too late. Too much power was, he thought, given to the Board of Agriculture to say what should or should not be added. He was not aware of any law by which medical men were told they must use certain anæsthetics for certain operations, and medical men would not be dictated to in that way. With regard to the question of the standing operation, it was no doubt a little anomalous to advocate on humanitarian grounds the use of anæsthetics, and yet to leave out the standing operation as being one which a man advised if he had an expert operator in the district. Personally, he never used the clamps; he always used a Blake castrator, and if he had not now got a little out of practice, and grown a little rotundity in front, he would always have preferred, for the sale of the patient, to operate with the horse standing rather than that the animal should be cast. When the operation was done expertly he had seen both the testicles on the ground in 3½ minutes; the animal went straight back to the manger, and the sum total of fright and pain was not nearly so large as that caused by the casting and the administration of chloroform. In many hundreds of instances the beast never turned a hair when the standing operation was performed, whereas when a colt was thrown and chloroformed he was usually very frightened. It must be remembered too that it was results that had to be considered in veterinary practice. Colonel Blenkinsop said he never would operate without an anæsthetic, and did not consider the standing operation a surgical one. Operators select and stick to the method which gives them the safest and best results. The most surgical method of castration was by means of a ligature, but that gave the most fatal results so far as the horse was concerned.

He agreed that the Anæsthetics Bill must be carefully considered before opposition was offered to it. As Mr. Davis had remarked, nothing was said in the Bill about the use of chloroform in parturition, nor in tumours or abdominal operations. It would take up pages if all the operations which had to be done under anæsthetics were inserted in the Bill, and the clauses should be in more general terms in order to include these. It was important that the administration of anæsthetics should be properly taught. A number of operations were done under complete and proper anæsthesia, but he had seen instances where the animals were simply given a smell of the chloroform in order to satisfy the prejudice of onlookers.

With the permission of the meeting, he desired to move:—"That the under-mentioned resolution be sent to each of the Members of Parliament, who are the promoters of this Bill:—

"That this meeting of the Central Veterinary Society emphatically favour the compulsory use of anæsthetics in all painful operations upon animals, wherever such is possible, with reasonable safety to the patient. They consider, however, that discretionary power should

always be given to properly qualified veterinary surgeons in the use of anæsthetics. They also think that a number of practising veterinary surgeons should be consulted before the Bill goes into Committee, with a view to making the clauses of such value that they can be adopted practically."

Col. BLENKINSOP seconded the motion.

After a discussion upon this, it was decided that instead of sending the resolution to the promoters of the Bill it should be sent to the Council of the Royal College of Veterinary Surgeons.

Mr. SLOCOCK thought it was a question whether the Central, which was one of the biggest Societies in the profession, should directly support a Bill of that nature. All the members were in favour of anæsthetics being largely used in veterinary practice, certainly in most of the major operations, but in view of the fact that the profession was credited with fathering the first Bill to the detriment of the quacks, and in that way met with opposition from many of the agricultural bodies of the country, he thought it was not desirable that they should take up an attitude of such strong support. He thought they would do better if they simply sat quiet.

Prof. MACQUEEN moved as an amendment:—"That no action be taken in the meantime regarding the promotion of this Bill." In the present stage of their knowledge regarding the various clauses of the Bill he thought it would be unwise to take action. The Society ought to be acquainted with the names of the promoters, the names of the veterinary surgeons who had supplied such very scant information to the promoters, whether the Board of Agriculture had been consulted, and what their views were on the subject. He considered the suggested action was premature.

Mr. MCKINNA suggested that if any action was taken at all, the resolution should be sent to the Royal College of Veterinary Surgeons, which was carefully watching the Bill in the interests of the profession. It would strengthen the hands of the Council if that were done.

Mr. SLOCOCK seconded Professor Macqueen's amendment.

Professor HOBDAV, with the permission of his seconder, altered the preface of his resolution to read:—"That the undermentioned resolution be sent to the Council of the Royal College of Veterinary Surgeons."

Prof. MACQUEEN's amendment, that no action be taken, was then put and lost, 12 voting for; and Mr. Hobday's amended resolution was put and carried, 16 voting for.

On the motion of Mr. Willett, seconded by Mr. Reynolds, a hearty vote of thanks was accorded to Prof. Hobday for his paper, and to the gentlemen who had shown "morbid specimens," and the meeting concluded with a vote of thanks to the President, moved by Mr. Willett, for the excellent manner in which he had conducted the business of the Society during his term of office.

The PRESIDENT, in acknowledging the compliment, thanked the members for the support they had given him during the year, and particularly very sincerely thanked their energetic Secretary, Mr. MacCormack, without whom his work would have been much more difficult. Mr. MacCormack was really the man who conducted the affairs of the Society.

HUGH A. MACCORMACK, Hon. Sec.

Royal (Dick) Veterinary College.

At a meeting of the Board of Management of the Royal (Dick) Veterinary College, Edinburgh, held on Wednesday of last week, Mr. F. P. Milligan, W.S., of the firm of Messrs. Martin, Milligan, and Macdonald, W.S., Edinburgh, was appointed to the vacant post of secretary and treasurer of the College.—*N.B.A.*

ROYAL SANITARY INSTITUTE CONGRESS.

CONFERENCE OF VETERINARY INSPECTORS.

THE MILK AND DAIRIES BILL,*

by WILLIAM ASCOTT, M.R.C.V.S. [ABSTRACT].

This Bill has been so well discussed at the last two sessional meetings it is difficult to say anything fresh; one can only criticise and agree or disagree, as the case may be, with previous speakers.

I may say at once that I am in entire agreement with those who plead for the urgent need of such a Bill, for although I do not believe the case is quite as black as has been painted by some, yet I cannot shut my eyes to the fact that the percentage of cases in which the picture has not been overdrawn is too great to deny the urgent need of more supervision; indeed, my principal complaint is that in at least one important respect, the Bill does not go far enough. Seeing that all urban districts are supplied with milk almost entirely from the rural districts, and also with butter, which, although not included with the definition of milk in clause 26, yet according to clause 12, I take it does come within the meaning of the Act, I am strongly of opinion that the latter—the rural districts—require even more supervision than the former.

The large centres have been much better looked after in the past, and this Act, by reason of its permissive clauses, I am afraid proposes to continue the system. Very few of the smaller urban district councils, and none of the rural, in my part of the world, at any rate, have taken advantage of the powers they already possess, and if the carrying out of the new Act is to be left to them, I am afraid it will be a dead letter so far as most of them are concerned. For this reason I feel very strongly that either the optional clauses should be withdrawn, or the carrying out of the Act be entrusted to those already overworked bodies, the county councils.

I am quite aware there are many difficulties in the way, particularly financial, but that is no reason why our present topsy-turvy system of inspection should be continued. It is surely of equal, if not greater, importance that the source of the supply should be supervised as well as the later process of distribution, and yet the latter is the only part that has hitherto received attention. To tackle the supply at its source is only carrying out the old adage that "Prevention is better than cure."

Taken as a whole the dairies proper, *i.e.*, the places in which the milk is stored, and where unfortunately now, in the majority of cases, the woman's work begins, are pretty well looked after, structural defects are being constantly remedied, and thanks to the excellent work of the dairy schools, there is not much here as a rule to complain of; not but what there are plenty of cases where there is room for improvement, but nothing like to the same extent as before the milk reaches this department.

To begin with the source of the supply, the cow, I am afraid it is only too true that in the majority of cases she is not, especially in the wet and rainy seasons, cleansed as she ought to be prior to milking, and practically the only factor that prevents the use of milk from diseased animals is that it does not pay long to do so in the case of the obviously diseased, and such are soon discarded; but unfortunately there are many others suffering from disease, particularly of the udder, as well as from tuberculosis, which escape detection either wilfully or from want of supervision, and these we hope we should be able to get hold of under this Act, aided as it will be by the Tuberculosis Order of 1913.

* These papers will appear in full in the *Journal of the Sanitary Institute*.

With regard to tuberculosis, those who have not been convinced by the overwhelming evidence adduced by the recent Royal Commission will not be influenced by any words of mine. How can they explain the conclusions arrived at by so many eminent men of the medical profession, particularly as regards the beneficial effect which the reduction of the supply of tuberculous milk has been proved to have on infantile mortality in large centres, such as Manchester? (See an article by Dr. Sheridan Delepine in the *Lancet*, of June, 1912.)

When we come to the cowsheds and shippens I think we are up against the biggest problem, and the most difficult to tackle if the Act is administered too drastically at first, not only on account of the expense but also on account of the inconvenience it would in many cases entail. Unfortunately, it is only too true that there are many cowsheds, especially on the small farms, which are a disgrace to any civilised community; some because they are structurally unfit, and cannot possibly be made fit, seeing that they were constructed for quite different purposes; and many which could be made fit but because, as well as those just alluded to, they are kept in a condition almost too filthy to describe. They are scarcely ever white-washed—some never, and seldom cleaned out properly. In some the dung is piled up in the corners until there is sufficient to make a load; in many it is cast daily out of what should be the window until no more can be thrown out that way; and in the majority of cases, including many that would be quite good otherwise, it is stored in a heap a few feet outside the door for months. In many cases the pigs have one corner of the same shed and the calves another portion, railed off with the beds of each, two or three feet high, composed of the dung which has accumulated for months. Of drainage in these cases there is usually an entire absence, and the stench can be well understood. Now all this should be altered, but it can only be done by means of such an Act as is now proposed. I have again and again, when speaking at agricultural gatherings, urged upon landlords and farmers to do what they could to remedy this state of affairs, but individual effort is of little use. Of course, if the Act is passed, and it is administered properly, there will be plenty of grumbling, but as there is evidently a genuine demand by the public for clean and pure milk, which can only be met by better supervision, the sooner the position is accepted the better for the trader; indeed, the better class trader is only too anxious to do all that he can to help the authorities in every way. I think what I have said about the sheds is a very strong argument in favour of registration, and I agree with those who think it would be best for this to be annual, unless periodic inspection is to be made compulsory.

All that has been said from time to time as to the necessity for cleanliness of the milker is so obvious that I need not dwell on it. It is also equally obvious that supervision is necessary, because, in spite of denials, it is unfortunately still true that the milkers, particularly the men milkers, in many cases neglect the most elementary rules in this respect. One thing has occasionally come under my notice in connection with men milkers, and that is that they are often given this work because they are either too delicate or too ill for rougher work. This, of course, is a part of the medical officer of health's duty, and without entering further into his domain, I think I have said enough to give the discussion a start; but before concluding I should like to say that I agree with those who think the proposed court of appeal may not always be a satisfactory one. A bench composed of landlords and farmers in the rural districts could not be free from bias, although on the whole we must agree that they try to act with the greatest possible fairness.

In conclusion, I wish to emphasise the point I have tried to make, and which I do not think anyone will dispute, and that is that there is plenty of work for the veterinary inspector. Every one must agree that he is the proper person to examine the cows—which at present receive no inspection, and—seeing that he should know more about their requirements than either the medical officer of health or the sanitary inspector, his assistance in inspecting the cowsheds is very desirable, if not essential. For these reasons I think two or three small verbal alterations should be made in clause 2 to make his position quite clear, and I would also lay stress on the necessity of doing away with the permissive character of the Act so far as the rural district councils are concerned, by striking out the whole of line twelve in clause 14 and the first word in the next line.

I would point out that the work would probably be anything but pleasant at first for the veterinary inspector or, indeed, for either of the other inspectors. With regard to his relations with the medical officer of health, I am quite sure he will be found to work in complete harmony with him, and so far from being a hindrance, as has been suggested by one or two, the very nature of his every-day work must make him a most valuable ally.

DISCUSSION.

The PRESIDENT said they need not be deterred from discussing this Bill by the supposition that the measure would appear in the list of the "innocents" that had to die in a very short time. The Milk Bill was before them, and its consideration was no less important now than if there were a chance of the Bill passing; so they might enter on the discussion with as much enthusiasm as though the passing were imminent.

Dr. FREMANTLE, Medical Officer of Health for Hertfordshire, said he only wanted to encourage the gentlemen who knew more about the subject than himself by supporting this Bill. He started by saying how grateful they were to Mr. Ascott for his valuable paper. (Hear, hear). He thanked Mr. Ascott, especially, not only for the conciseness of it but also for the very kind and courteous way in which he had expressed the relationship between the medical and the veterinary profession. (Hear, hear.) He felt that the work of the veterinary inspectors was invaluable to medical officers of health, and he promised Mr. Ascott and those who were veterinary inspectors that they would have no greater friends and better well-wishers and co-operators than the medical officers of health. What they wanted to recognise was that each of them had his own work, that each of them held a kind of watching brief for the community. Medical officers were the first sanitary officers, and from their work had risen a great crowd of officials of one kind and another, but medical officers had only one desire, and that was to put off their work on to other shoulders who were more capable, by virtue of their knowledge and experience, to perform it. That was especially the case with veterinary inspectors. Over and over again they were called upon to give their opinion on matters which related to the work and the special sphere of the veterinary inspectors. They were quite prepared to do it as if they were authoritative, but they much preferred to have the opinion of the veterinary inspector, who was more authoritative still. If medical officers gave their opinion emphatically on little knowledge, the veterinary inspectors would recognise that the medical officers only wished to co-operate with them. (Hear, hear).

As regarded this Bill, they had had it promised them year after year. In August, 1908, in a presidential address which he delivered, he referred to the beneficent measures of the Government who had promised them a Milk Bill. The same thing had occurred every year, and every year the need of it was becoming more im-

portant. (Hear, hear). He could bear out what Mr. Ascott had said as to the condition of the stalls. They expressed their entire recognition of the point of view of the dairy farmer, who said that if Parliament was going to lay a very greatly increased burden of expenditure upon him, although in the long run it might pay when the public recognised the necessity of it, it was a burden he could not bear. Meanwhile, pending this creation of a healthy public opinion, the considerable loss of the dairy farmer might result in some increased expenditure on milk and some deficiency in the supply, if this legislation was carried out in a blindfold way. There was great danger in reducing the amount of milk consumption, or of increasing the expense. (Hear, hear). They must all recognise their sanitary work. It was not simply the few cleanly well-to-do artisans, but those people who seldom consumed pure milk and had the greatest rate of infant mortality and general death rate, who must be safeguarded. Authorities and officials had to deal very tenderly with the question in order to prevent substitutes being offered for milk which were a great deal worse than milk, even if the milk was not exactly clean. He agreed as to the necessity of annual registration for the present. He ventured to call it a license, because license was a better definition in the public mind. They ought to press for the annual licensing of the milk shops and dairies, which would of course make it a matter of routine that they should inspect these dairies every year. (Hear, hear). He thought that that should be impressed upon district councils. Although he stood for County Council Government he did not stand for usurping the work of the district authorities when the district authorities were carrying out their business. (Hear, hear). Taking a military analogy, the brigadier was not going to interfere with the regiment so long as the regiment was well managed. That was the position that the County Council should take up. The County Council should have a watching brief, and power to interfere and responsibility. (Hear, hear). With all this expert service they wanted as broad a basis of work as possible. If a veterinary inspector was appointed by a small district council, managed to a large extent by farmers, it was not giving the inspector sufficient security in his office or a sufficient outlook for his professional service. (Hear, hear). That service should be organised on a large basis. It would be necessary more and more to have a national service, just like a national service for the appointment to various posts to the Army and Navy (Hear, hear.) Inspectors should be appointed on a broad basis of national service, even if they were only part-timers. It must be a national service in which the inspectors should have complete scope and absolute freedom, and if they had, they would be able to attack a vast amount of work. (Applause).

Mr. A. H. ARCHER, Southern Counties V.M.S., said he had perhaps unique opportunities of learning something about this Tuberculosis Order whether it was likely to be carried into effect, and to what extent it would affect owners of stock, as well as the veterinary profession generally.

The PRESIDENT (interposing) said they were discussing the Milk and Dairies Bill, not the Tuberculosis Order; they must keep the two matters distinct.

Mr. ARCHER said the Milk and Dairies Bill would, of course, be at one with the Tuberculosis Order that was now in force. He might say that he had a personal interview with the President of the Local Government Board with regard to it a little over two months since. He knew from the President's personal observations that he was anxious to get any opinions that would assist him in what he (the speaker) might call the inevitable carrying out of the Milk and Dairies Bill when it became an Act of Parliament. No doubt some of the Inspectors who were now carrying out the Tuber-

culosis Order would also be inspectors under the Milk and Dairies Bill. They could run side by side, and he did not see how they were to be kept separate. The effect it was likely to have would be that in many cases the owner would be very much aggrieved, because when the Milk and Dairies Bill came into effect as soon as an animal was notified as suspicious of being subject to tuberculosis, the milk supply must be stopped. That was more serious than the actual loss of the animal. (Hear, hear.)

Under our present system it would take several days to decide whether an animal was tuberculous or not, and that, from the owner's point of view, was a very serious matter, and he thought it was one that should receive consideration, and if anything could be devised to accelerate the decision of the inspectors it should be put before them. (Hear, hear.) He was sure the promoters were willing to welcome any sound practical advice that would advance the popularity and ease the working of the Order and the Bill.

Mr. J. W. McINTOSH, President, Central Veterinary Society, would like to thank Professor Penberthy and Mr. Ascott for the very excellent papers they had submitted. He was an Inspector under the Act, and having been born and bred in agriculture, and an old student, he was much interested in the Bill. He thought they ought to recognise that nothing was more important than that farmers and milk sellers should establish and maintain public confidence in the wholesomeness of what they produced. He was quite sure that all would concede that the legislature was justified in insisting on all reasonable steps to ensure that our milk supply was bought and sold under the best possible conditions. (Hear, hear.) Instead of tardily and reluctantly conforming to any regulations which might from time to time be imposed upon them, they should welcome them. But such regulations should be thoughtfully considered and carefully applied; they must be reasonable, and not calculated to harrass an already over-harrassed industry. (Hear, hear.) The success or otherwise of the Bill depended very largely on the support and loyalty of the producer and the amount of wisdom he credited to those who were to be entrusted with the carrying out of the provisions of the Bill. (Hear, hear.) In a deliberate policy of State interference it was imperative that no undue restrictions were imposed, and no arbitrary powers placed in the hands of municipal authorities, which did not always possess sound and practical knowledge of the subject. If the authorities were to take a course which would make the production of milk more difficult or more costly he thought it would be unjust to the children of our great industrial centres. He did not mean that they should resist progress, but he meant that it was of great importance not to cause disturbance in the milk supply. (Hear, hear.) It was right to proceed cautiously, guided by common-sense and practical experience, not by force and theories.

He was entirely in sympathy with the view that they should have whole-time veterinary inspectors. (Hear, hear.) In regard to compensation, he was quite sure that to deal with the matter of compensation in a narrow and illiberal spirit would not advance, but would greatly retard, the influence of legislation. None of them were friends of the tuberculous cow, but they surely did not want anybody to make a present of that animal to the State. (Hear, hear.) If they did not give full compensation they would provoke obstruction, and he feared the result would not be entirely satisfactory. (Applause.)

Dr. G. H. GARRATT (Cheltenham) pointed out that the word "Inspectors" under the Order might have a complication of meanings. One hardly knew what it meant. It was a matter of regret that in an Order of the Board of Agriculture they should mix up this word "Inspector." One sort of inspector was referred to in

connection with notification, and then there was the veterinary inspector: they should have called him the veterinary officer. However, that was a minor point. He was absolutely at one with Dr. Fremantle in recognising that they should all work together, and that if the thing was to be a success that must be so. (Hear, hear.) It was of great importance when there was any disagreement in any great public health department with regard to the appointment of a veterinary officer, he recognised it was a misfortune that a local council should appoint him, and especially in rural councils. Without security of tenure, that condition had been so unfortunate with regard to medical officers of health in that they could not be sufficiently independent. (Hear, hear.) They had to deal with farmers and other interested persons whom they came in contact with as members of the Council. That was not desirable unless they were independent. (Hear, hear.) He was quite sure that the veterinary inspector, as well as the medical officer of health, must have security of tenure. This Bill was very much wanted. As medical officers of health they saw the great desirability of such a Bill, particularly with regard to registration; the registration of dairies and milk shops in a town of any size was of immense importance. In Exeter, for instance, there would be some milk shops which ought to be registered in perpetuity in order to be kept purely sanitary; that was the case in every town. There was no power to prevent the occupiers of little shops who wanted to add two or three shillings a week to their income by the sale of milk, becoming milk sellers. It was one of the best provisions of the Bill that there should be registration or licensing annually, the license being given only to a suitable place and revoked if necessary. These things were of vital importance, and it was absolutely essential that medical officers and veterinary officers, and sanitary officers should all work together. He should say that the sanitary officer was the best to deal with the building, as he was best up in building construction, and he could write out the best notice giving details of the requirements. With regard to registration and licensing that would probably be for the sanitary officer and the medical officer of health to see to, but as to the condition of the cattle, the veterinary inspector's services would be paramount, whilst as to the condition of the milk the services of the medical officer and the veterinary inspector would both be required. The duties were bound up together and could not be separated anywhere, and therefore they would all have to work together very heartily. (Applause.)

Mr. G. P. MALE said he had been extremely pleased to hear the graceful way in which the President's address had been referred to by Dr. Fremantle and Dr. Garratt, which augured well for the future carrying out of this Milk and Dairies Bill. He felt certain that it could not be carried out properly unless there was co-operation between the veterinary surgeons and the medical officers of health. The Bill was not quite clear as to the exact position of the veterinary surgeon and the medical officer of health in regard to the inspection of cattle, and certainly some alteration should be made in the clause referred to by Mr. Ascott (Clause 2), in which power was given to the medical officer of health to inspect cattle if accompanied by a veterinary surgeon. (Hear, hear.) The medical officer has the power to inspect the cattle. He (the speaker) was sure the medical officer would be the last to wish to go round and examine the cows' udders and give an expert opinion. The Bill should be made more clear on that point. (Hear, hear.) He thought the Local Government Board had accepted an amendment by the Royal College of Veterinary Surgeons that it should be made perfectly plain that the veterinary officer inspects the cattle, and that his report should accompany that of the medical officer of health. Mr. Ascott seemed rather nervous

that the Bill would not be carried out in small rural areas. He (the speaker) thought there would not be much difficulty about that, the district councils carried out the provisions of this Bill, and the dairies have to be registered, so that they must be inspected before they were registered, and the Act must be put in force in that way. Then provision was made in the Bill for the County Council to take on the duties where the rural district councils had not carried them out. Of course, the proceedings must be gradual, and the dairyman must be given time in which to set his house in order. There was a useful clause in the Bill which allowed the landlords, under certain conditions, to pay the cost of such structural alterations as were necessary. He (the speaker) did not know whether the Tuberculosis Order and the Milk and Dairies Act would work as smoothly together as had been anticipated. He thought that possibly there might be some overlapping. Personally he thought it would have been better if the veterinary inspector under the Tuberculosis Order was also the inspector under the Milk and Dairies Bill. Any veterinary surgeon, according to the Bill, might be called in by the medical officer of health. He could go to a certain length in tracing a tuberculous animal, but he was not allowed to apply the tests, and he was not allowed to slaughter the cow. If he was not an inspector under the Tuberculosis Order an inspector would have to be called in. He (the speaker) did not know whether the inspector had to make the diagnosis over again, or whether he was to accept the first diagnosis. The veterinary inspector under the Tuberculosis Order was responsible to the County Council or the borough council, whereas the district councils would be responsible for this Bill when it became an Act. (Hear, hear). They had had a realistic description of the condition of some of the cowsheds. He hoped they were not as bad as the speakers made them out. (Voices: "Worse.") He noticed that a good many of his audience were from the South-West of England. He must say, in all fairness, that in the district he came from they did not see the bad condition which had been described here. He was sorry to hear it was even worse than that. He must say that farmers had not been averse to well-considered regulations for the inspection of their dairies and their cows, so long as the regulations were carried out in a moderate spirit and were made to apply all over England. Before now they had had scattered Acts of Parliament which had been very drastic in certain districts, whereas other districts were allowed to go free, and now that they had, or were about to have, a Bill which they had asked for for a long time, he was sure they would all fall into line and carry out the spirit of the Act, if not the letter. (Hear, hear).

Mr. DUNSTAN (Holsworthy) observed that the subject under discussion seemed to him to be a somewhat nebulous one. He thought it was the same relation to the various Acts of Parliament as one of the component bodies does to that galaxy of stars known as the milky way. (Laughter). He did not think that there was the least likelihood of the Milk and Dairies Bill being considered this session, nor even next session. There was such an enormous amount of work before Parliament at present that such things as these had to slide. In fact, if one might prophesy the result of next year's legislation, the first would be Home Rule, the second Disestablishment, and the third something else: if they looked down the list at the "also ran's" they would find the Milk and Dairies Bill. (Laughter). The Bill had received the serious consideration of the Subcommittee of the Committee of the Royal College of Veterinary Surgeons. The interests of the profession had been considered and they would be submitted to Parliament when the time came. They need not fear but that their interests would be thoroughly looked after.

There appeared to be great trepidation in the minds of some people that there was going to be a good deal of friction between the medical officer of health and the veterinary officer. Personally, he did not see why this should be at all. If each stuck to his own sphere of work there was no reason why one should encroach on the other. Nobody would deny that the medical officer should give the final word as to what was fit for the food of man. But they would not care for the medical officer to come among their pigs and say what food was suitable for them. Least of all should he diagnose the disease and say whether it existed or not. All he could say was whether it was food fit for the consumption of man. One speaker had wondered whether Mr. Ascott was exaggerating as to the condition of the cowsheds in this part of England. He (the speaker) said emphatically not. He thought Mr. Ascott had drawn it rather mildly. Those who were in the habit of going constantly among cows would see the absolute necessity of something being done to ensure greater cleanliness than at present existed in the cowsheds. There was no food, he was sure, produced under filthier conditions than milk. There was great need for something being done. (Hear, hear).

Mr. J. A. DIXON (Leeds) observed that from all accounts the cowsheds in the south-west of England were in a bad condition. It would probably be news to gentlemen in the south that in the rural parts in the North no words could exaggerate the filthy and unsatisfactory condition of the cowsheds. Long observation of these holes of filth led him to think that annual licensing was required by law, under strict conditions. Why should the farmer be molly-coddled, and dry-nursed, and coaxed and persuaded, and rewarded with something in the way of compensation? As a matter of expediency he would admit that at present it was almost essential to grant some compensation for the destruction of cows, but on principle he would not give the farmer a farthing. It was thirty-eight years since the Public Health Act came into force. During that time those who sold meat, and bread and other things had been looked after by the law. After thirty-eight years working of the Public Health Act they were going to reward the farmer for declining to sell a tuberculous animal. If a butcher was found with diseased meat on his premises he was liable to three months' imprisonment. He was not rewarded for being good, and not dishonest to the general public. Why should the farmer? He (the speaker) saw scores of cows go up for sale with tuberculous udders. They came to his place from Scotland and from all the dairying districts of the North with huge tuberculous udders. How many hundreds of children consumed the milk of these cows? Should the farmers be rewarded for having such cows destroyed? He said, No. The farmer should be given six months (laughter). Mr. McIntosh had remarked that harsh measures would lead to obstruction of the Bill. Let the farmers resist it. Their opposition must be broken down. If they would not do the right thing in the ordinary way, they must be made to do it. The Milk and Dairies Bill and the Tuberculosis Order would to a large extent overlap, but he rather thought when the Bill came into operation—if many of them should live to see it—it would be found that the officers working under the Milk and Dairies Act would do the work under the Tuberculosis Order, and would come in and clear up the debris.

Mr. ASCOTT, in reply, said he was grateful to the medical officers for their sympathetic references to the veterinary profession, and for the cordial way in which they had welcomed the veterinary surgeons' assistance, there was one point which he did not make clear, and that was that the farmer would object to anybody but the veterinary surgeon inspecting his cattle. That was a point that had been made at various meetings of

farmers. It was obviously the farmers point of view that he should have somebody who was an expert to examine his cattle. Another topic of discussion had been whether the expense should fall on the landlord or on the owner of the cow. Most of them were in favour of suavity as a mode of policy because of the great opposition which an opposite policy would entail in the West. He was sorry to hear that the cowsheds were as bad in the North as they were in the West. He thought the trouble was not so acute in the North where the milk industry had not so many small holders as in the West, but apparently it was so. He had pointed out that many of these buildings were unsuitable and would have to be reconstructed, involving a large expenditure in the first instance. He agreed that they should help these farmers and dairymen to do the best for themselves and for the community in general.

SOUTH DURHAM AND NORTH YORKSHIRE VETERINARY MEDICAL ASSOCIATION.

The third annual excursion took place on Friday July 11th, and like the two previous outings proved an unqualified success, and a merry party of members and their friends to the number of thirty-three, left Darlington by motor char-a-brac for Wensleydale, bent on a good day's enjoyment, with a resolve to leave all care and worry of business behind for one day in the year at least.

Joining the Great North Road about seven miles from Darlington, the village of Catterick was the first place of interest passed. This was a flourishing city in the time of the Saxons, and here the marriage of King Ethelred with the daughter of Offa, King of the Mercians was celebrated. It was destroyed during Danish outrages, and never regained its former greatness.

Leaving Catterick the journey was made by way of Hornby Park, the seat of the Duke of Leeds, to Leyburn, a distance of twenty-four miles from home, where the party were quite ready to do ample justice to an excellent lunch provided at the Golden Lion Hotel.

After lunch some of the energetic ones had a walk along the famous terrace of rock known as Leyburn "Shawl," and were fully repaid, for here the view is superb. Immediately below is the river Ure winding boldly through the dale, and in front a wooded steep, crowned by the height of Pen Hill. Others paid a visit to the antique shop of Messrs. Horne and Sons, where many interesting curios were inspected.

The ladies appeared to pay particular attention to old furniture, china, and clocks, but their persuasive powers had little avail upon their male companions, and it seemed as if that ear of the men next the lady had become suddenly hard of hearing when the prices of the articles fancied were named.

The journey was now resumed to Aysgarth Falls, 10 miles distant from Leyburn, and pleasant as had been the journey to Leyburn it was surpassed by the surroundings now passed. The sun shone down from an almost cloudless sky, the high hills were clearly marked out, hay making was in full swing, and those so employed gave us a friendly cheer as we passed quickly on.

Next we passed through Redmire, and one mile from here is Bolton Castle with massive walls which have stood for nearly 700 years. This ancient stronghold is chiefly memorable as having held as prisoner Mary Queen of Scots, and the room in which she was kept is shown to visitors.

On reaching Aysgarth Falls the more active ones climbed the rocks and walked on to the village, when a good old-fashioned tea, such as can only be obtained in Yorkshire, was partaken of.

The return journey was made along the opposite side of the river to that we had previously passed along, and Leyburn was soon reached. Here we altered our journey home and went by way of Richmond, arriving back to Darlington at 8.30, in ample time for some of the members to catch their trains home.

Before breaking up three hearty cheers were given to the chauffeur, in whose capable hands all had felt perfectly safe.

J. H. TAYLOR, Hon. Sec.

ANNUAL DINNER OF THE NATIONAL VETERINARY MEDICAL ASSOCIATION.

The annual dinner of the Association, the first under the new régime, was held at the Trocadero on Tuesday evening, Mr. W. Hunting, President, occupied the Chair. Nearly a hundred members and guests were present, amongst whom* were Sir John and Lady M'Fadyean, Mr. J. H. Carter, President of the Royal College of Veterinary Surgeons, Miss Hunting, Miss Carter, Maj.-General F. Smith, C.B., Mr. Thomas McRow, R.A.S.E., Mr. J. Abson, Mr. N. Almond, Mr. and Mrs. Hugh Begg, Mr. and Mrs. C. Blackhurst, Mr. J. W. Brittlebank, Mr. Fred Bullock (Secretary, R.C.V.S.), Mr. J. B. Buxton, Mr. and Mrs. W. S. Carless, Mr. W. Roger Clarke, Mr. D. Gladstone Davies, Mr. and Mrs. Davis, Prof. J. Dunstan, Mr. R. J. Foreman, Mr. W. J. Foreman, Mr. H. Gray, Mr. F. W. Garnett, J.P., Mr. W. L. Harrison, Prof. F. Hobday, Mr. P. J. Howard, Mr. R. Hughes, Mr. Fred Hunting, Mr. R. C. Irving, Mr. Alexander Lawson, Mr. G. H. Locke, Mr. J. W. McIntosh, Mr. G. P. Male, Mr. H. A. MacCormack, Mr. P. J. Mullane, Mr. and Mrs. C. Pack, Capt. Rees-Mogg, Prof. E. Brayley Reynolds, Mr. and Mrs. S. H. Slocock, Mr. P. J. Simpson, Mr. and Mrs. F. G. Samson, Mr. T. C. Toope, Mr. George Thatcher (Solicitor, R.C.V.S.), Prof. G. H. Wooldridge, Mr. J. Willett, and Mr. W. Woods.

Sir JOHN M'FADYEAN, in proposing "The United Services," paid a tribute to the Navy, Army, and Territorial Forces. The Navy, he said, had glorious traditions behind it, and the only fault apparently that could be found, even by Continental critics, with the Army was its smallness.

Capt. REES-MOGG, in responding, referred to the work done by Major-General Smith, especially during the time he was Director-General of the A.V.D. He was sorry the Army Veterinary Department was not better represented at the dinner, and he expressed the hope that parents would see the advantage of their sons going into the Army, because although diseases in animals were becoming extinct in this country, members of the Army Veterinary Department had an opportunity in other countries of coming into contact with all the diseases under the sun.

Mr. McRow (Secretary of the R.A.S.E.) proposed "The Royal College of Veterinary Surgeons," and said there had been a great advance in veterinary science since the Charter was obtained by the R.C.V.S. He did not take a gloomy view of the future of the profession, because, although the horse seemed to be disappearing, other animals continued to flourish, and as years went on, the services of veterinary surgeons would be required as much as ever they had been. The intelligent owners of live stock to-day were more ready to take the advice of the veterinary surgeon than they had been in the past. He was connected with an Institution which had had a very close connection with veterinary science for many years, and, having regard to the great impor-

* A complete list was not available.

tance of the veterinary practitioner to the breeder of live stock, he believed that connection would long continue. Veterinary science had dealt in the past with a great many diseases, especially cattle plague and pleuropneumonia. He was old enough to remember Mr. Simonds, who went to Russia in connection with the cattle plague, and he had lived sufficiently long to see Sir John McFadyean going to India in connection with foot-and-mouth disease. In conclusion, he said he yielded to no man in sincere appreciation of the Royal College of Veterinary Surgeons, and he coupled with the toast the name of its President, Mr. J. H. Carter.

Mr. CARTER, in responding, referred to the valuable aid rendered to the College by its Secretary, Mr. Bullock, who had done, and was doing, a great deal for the College, and thus for the benefit of the profession. He thought no profession had made more rapid advance in the last decade than the veterinary profession, and that was all the more creditable when it was remembered that that advance had been made without outside aid. A little more help from Government would be appreciated. Veterinary surgeons had every reason to be proud of their profession, although small it was progressive. Unfortunately the College was wretchedly poor financially, as was shown at the last Council meeting, when the Treasurer explained that the liabilities were £227, and the assets only £27. Unfortunately, at present, students were falling off, the reduction during the last year amounting to 34 per cent. Consequently there was one-third less revenue now than there was seven years ago. It had been said that the Council of the R.C.V.S. was an ornamental Council, but as a matter of fact it was a hard-working body. During the last year it had been very busy. The whole of the Byelaws had been revised, and in no case had the revision involved the introduction of any question of principle. A special Committee had been appointed to revise the Regulations governing the Fellowship Degree, and to draw up regulations for the institution of a new Post-graduate Diploma in Veterinary State Medicine, for which a new Supplementary Charter would be needed, and steps would shortly be taken in that direction. The Registration Committee, which was composed of the whole of the Council, had been occupied in considering cases of unprofessional conduct on the part of members, and also of the illegal use of the title of "Veterinary Surgeon" by unqualified men. During the last twelve months over 80 cases had been dealt with; prosecutions were instituted in eleven cases, and convictions obtained in ten, only one case being dismissed. The Parliamentary Committee had had under consideration many Public and Private Bills affecting professional interests, and under the energetic Chairmanship of Mr. Garnett, had closely watched all matters that might interfere with the rights of the profession. There were two Bills especially, the Milk and Dairies Bill and the Milk and Dairies (Scotland) Bill, and certain amendments had made it clear that any inspection of cattle must be conducted by qualified veterinary surgeons only. He was pleased to see that the Dogs Protection Bill had been thrown out. Mr. Garnett and the Secretary gave evidence on behalf of the College before the Departmental Committee on the Public Veterinary Services, and the Committee had made certain recommendations, amongst them being that students possessing a suitable science degree should be granted exemption of one year in the four years necessary to qualify as a veterinary surgeon; that twelve scholarships should be offered each year of an annual value of £80 tenable at a Veterinary College for three years; and that scholarships of an annual value of not less than £100 and not exceeding £150 should be offered each year to enable qualified veterinary surgeons to undertake advance study and laboratory work at suitable institutions. The veterinary profession was

not yet dead—in spite of the advent of motor traction. In 1911 there were in Great Britain 1,500,000 horses, 26,000,000 sheep, 7,000,000 cattle, 3,000,000 pigs and 2,000,000 dogs, the total number of these animals being nearly equal to the human population of the British Isles. Those figures showed that there was plenty of work for the veterinary surgeon, and he thought there never was a brighter prospect for the profession than there was at the present time. In conclusion he alluded with regret to the fact that during the last twelve months the profession had lost four Past-Presidents of the National Association, Mr. Bower, Mr. Hedley, Mr. Faulkner, and Mr. Roberts, and two other old members, Mr. McGavin and Col. Steele. Every veterinary surgeon regretted their loss and the Association was the poorer by their deaths.

Dr. McCALL proposed "The National Veterinary Medical Association." He said the Association had done a very good work for the veterinary profession in the country for a great number of years, and now that the Veterinary Societies were affiliated with the Association he was sure it would do even better work than it had done in the past. There was one point he wished particularly to direct attention to, and that was the advisability of the younger men coming forward. During all the years he had attended the meetings of the Association it had been very seldom his privilege to hear a paper from a young member of the profession, most of the papers having been read by old and experienced members. He thought it was time that state of affairs was altered, and that the younger men came forward. It was, however, very difficult to obtain new recruits for that purpose, owing partly to the fact that they were subjected to a very strong fire of criticism, and he had come to believe that if the Association was to continue to do the good it had done in the past there ought to be a law that the discussions should be of a more friendly nature, and men who criticised a paper ought to look lightly at its faults, and give the reader more credit for the strong points.

The PRESIDENT, in rising to respond, was received with great cheering and musical honours. He agreed with Prof. McCall that the younger men did not take a more prominent position in the Society, but he did not agree that it was because they were afraid of criticism. He would not give much for a man who was afraid of being criticised. There was an old friend of his who was supposed at the Central Veterinary Medical Society to put the fear of God into every man who read a paper there, but that gentlemen had never put any fear into him. He joined with Prof. McCall in asking the young men to come forward and take their proper share in the burden of the Association. It was the thirty-first gathering of the Association and he wanted to claim for it that during those 31 years it had contributed a good deal to veterinary knowledge, not only in original work, but in correcting many erroneous opinions.

Alluding to the International Veterinary Congress to be held next year, he said it had been decided by the Association to take a part in that Congress and only to hold a formal meeting of the Association so as not to conflict with the Congress meetings. He paid a tribute to officers of the Association, without whom he considered the Presidents would make a very poor show; in fact he declared that Mr. Harrison was the man who really ought to have the chief credit for running the meeting this year, and all the credit for the dinner. (Hear, hear.) That was probably all the reward he would get. (Laughter.)

Mr. T. C. TOOPE proposed the toast of "The Guests," this was responded to by Mr. George Thatcher.

Prof. WOOLDRIDGE proposed "The Ladies," and in the course of his remarks suggested that the ladies of any locality in which the National Association met should band themselves together to entertain the

lady visitors when the men were engaged in the meetings.

Mr. FRED BULLOCK (Secretary R.C.V.S.) in returning thanks on behalf of the ladies, humorously expressed their gratitude for the hearty manner in which the toast had been proposed and received. He emphasised the necessity in these days of ladies themselves replying to the toast, and he asked the officials in future to place a lady's name on the list to reply for her own sex.

DRUGS AND INSTRUMENTS.

There was the customary display in connection with the meetings of the National Society, in the Library of the Royal Society of Arts—a good room, well lighted, and conveniently situated on the ground floor, facing the entrance, and it was visited by a good percentage of the members present at the meetings.

Messrs. WILLOWS, FRANCIS, BUTLER, and THOMPSON had, as usual, a well displayed stand, showing most of their new familiar preparations. One of the recent additions is "Vermifugen" for dog practice. It contains Santonin and Chenopodium, and is put up in liquid and in capsules. Other preparations on show were Black-leg vaccine, which steadily increases in favour: Gelatine-coated horse balls; Iodotan (iodine and tannic acid); Formogen—a small pocket lamp for use in formaldehyde disinfection of stables, etc.; and Arsenical tablets for internal parasites in sheep.

Messrs. C. J. HEWLETT & SON were showing their "Unique" horse balls; "Magnum" pessaries in nine prescriptions, a full series of soluble tablets ("Soltabs") hydrg. perchlor. et biniod.—these are made to a number of prescriptions; "Paraphroxia," analgesic and cathartic. "Curex," a non-greasy cream for eczema and irritable skins in dogs and cats; "Pelletiernine," a vermifuge for sheep and lambs, stated to give excellent results; "Antiseptigen," (poison) a liquid antiseptic and resolvent, of use for splints, curbs, capped elbows, etc. Recent additions are their Super-lactique teat bougies, made the size and thickness of a milk syphon, and with a fine cord running through each, so that the undissolved portion may be removed as required, useful for injured teats, or after operating on a blind teat; and their "Special green blister." They were also showing milk fever outfits (metal cylinder), hypodermic syringes, etc., in several convenient forms.

Messrs. HUISH & Co., of 12 Red Lion Square, London, exhibited in addition to their usual good display of Veterinary Instruments, the necessary equipment for Veterinary Inspectors, including a fine Microscope, Water and Hand Centrifuges, Micro Slides of Milk Smears showing Tubercle, and the parasites of various animals. Pasteur Vaccines and Sera, Blacklegine, Vergotinine (the successful remedy for broken wind), Beach's Thermo Cautey, The Massagette (for rubbing in lotions, etc.), and other specialities.

Messrs. PARKE, DAVIS & Co. showed, besides most of their standard preparations, the recently introduced "Phylacogens" for veterinary use, described as "sterile aqueous solutions of metabolic substances generated by bacteria grown in artificial media: the bacteria-free filtrate containing suitable preservatives constitutes the phylacogen." The process was originated by Dr. A. F. Schafer (California). The two which have been tested are Pneumonia phylacogen and Mixed infection phylacogen, and satisfactory tests are reported. Also canine distemper vaccine, prophylactic, in sets of three bulbs; and curative, in sets of six bulbs. The prophylactic is a polyvalent vaccine prepared from several strains of *B. bronchosepticus*. The curative contains,

in addition, cultures of *Staph. albus* and *aureus*, *Strept. pyogenes* of canine origin. Formidine: a powerful antiseptic, for internal or external use, "more effective than iodoform and almost odourless. It may be used as a dusting powder, moist gauze or ointment: and internally as an intestinal antiseptic in conditions depending on infection or fermentation." It is stated to contain 56 per cent. iodine, with condensation products of salicylic acid and formaldehyde: and to have stood the test of delicate operations in human surgery.

Messrs. BURROUGHS, WELLCOME, & Co. were showing a series of veterinary sera and vaccines, as well as numerous other preparations, including Tuberculin, Mallein, Tetanus antitoxic serum (veterinary); Anti-colon-bacillus (canine), Anti-streptococcus serum, Pyogenes (canine); Anti-streptococcus serum, Strangles; and a series of vaccines. Also a large selection of "Tabloids."

Messrs. ARNOLD & SONS had a fine show of instruments, most of which are known in the profession. One of the more recent additions is a Milk Fever Syringe, all metal, the rubber pump being replaced by a metal syringe with a metal piston, and metal tubing—the whole of the apparatus can be boiled. Another was the Tattooing apparatus for use on the gums of horses, as in use at Aldershot; and a third a powerful Castrating instrument for use on bulls—an Italian suggestion—by which the dependent scrotum with the testicles are removed together by means of a pair of fine crushing edges with powerful levers.

THE ANGLO-AMERICAN PHARMACEUTICAL Co., LTD., handling Huxley's Pharmaceutical Products, make a feature of putting up certain of their numerous preparations with the name and address of the customer on the label; one of these, a medicated shampoo powder for canines, might prove popular in some directions. Their chief item to-day is Huxley's antiseptic plasma dressing, for treating inflammation, congestion and wound surgery in animals. This also is put up without maker's name. They issue an illustrated list, and their address is 59 Dingwall Road, Croydon.

Royal College of Veterinary Surgeons.

EXAMINATIONS IN EDINBURGH.

At the Examinations in Edinburgh held on July 12th, the following gentlemen passed their Final Examination, and were registered members of the R.C.V.S.;—

Mr. James Conner.
Mr. Ronald Scott Little.

Veterinary Carbolic Oil.

Carbolic oil, veterinary or other, should be made with the crystallized carbolic acid. A clear solution is always obtained in this way.

If the liquefied carbolic acid is used, the product is not only opaque and requires to be shaken before use, but the strength of the carbolic oil made with it is lower, since the liquefied carbolic acid contains only 90 parts of phenol in 99. Doubtless it is often made with the liquefied acid for convenience, but it is not right to do so, even if the strength is made up. The fact that stock labels recommend the bottle to be shaken is nothing to go by.—*Pharmaceutical Journal*.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders † (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks	Slaughtered.*
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
Gr. BRITAIN. Week ended July 26	9		10				2	2	34	52	1	56	578
Corresponding week in	1912	5	13		6	31	5	6	35	77		54	745
	1911	5	8			37	1	2				53	719
	1910		34		1	14	8	57			4	27	359
Total for 30 weeks, 1913	345		278				100	277	1794	3678	124	1474	19719
Corresponding period in	1912	529	601		55	321	106	209	2233	4907	165	2027	25991
	1911	515	542		7	420	114	291			304	1568	18235
	1910		1078		1	14	211	649			326	884	8014

† Counties affected, animals attacked: Kent 1, London 1.

Board of Agriculture and Fisheries, July 29, 1913.

IRELAND. Week ended July 26	...	...	...	...	...	...	...	Outbreaks	11	4	11
Corresponding Week in	1912	...	...	...	3	...	...	2	...	4	32
	1911	...	1	...	...	...	...	...	...	3	153
	1910	...	...	...	...	...	...	...	2	3	15
Total for 30 weeks, 1913	...	...	...	...	...	...	...	93	351	97	567
Corresponding period in	1912	2	2	16	198	...	...	48	262	157	1389
	1911	6	7	...	...	2	3	44	245	77	1382
	1910	5	8	...	...	1	2	43	341	65	1553

† These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, July 28, 1913

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

DOGS BILL.

The Committee met again on July 23rd and decided not to proceed with the Bill, in view of the deadlock reached at the meeting on July 16th and of the advice given by the Speaker, who had been consulted on the situation.

The Suggested Cattle Testing Station in Scotland.

Mr. Runciman attended a meeting of Scottish cattle breeders in the Highland and Agricultural Showyard, Paisley, to discuss the question of establishing in Scotland a cattle testing station on the lines of that being established at Pirbright, in Surrey. Opinion north of the Tweed is sharply divided on the point, the breeders of Ayrshire cattle having ranged themselves in strong opposition to the movement. The attitude of the south-western counties is difficult to reconcile with the keen business instincts of the farmers of that district, as it implies a short-sighted view of the situation and defective appreciation of the issues involved. There are certain drawbacks to the proposition, the chief of which is the risk of contamination associated with the bringing together for a stated period of animals from widely separated areas: but the dangers are no greater to Ayrshire than to other cattle, and it would be unfortunate if the expected benefits were to be denied to the supporters of other breeds merely to palliate exaggerated ideas of the disadvantages in one district.

Mr. Runciman, in a careful review of the situation, met the objections effectively. He set aside the question of expense with the remark that, although the cost of quarantine might be high in proportion to the ave-

rage price of an Ayrshire, the latter was rising steadily, and the upward movement would be accelerated by the security which the testing station would give to the buyer. He had more sympathy with the suggestion of risk from infectious disease, but he did not think they need worry very much about the danger regarding foot-and-mouth disease, and in any case owners of the lower-priced Ayrshires incurred a smaller risk than breeders of Shorthorns and other animals of higher value. The President of the Board of Agriculture hoped that the breeders of Ayrshires would reconsider their position in the light not only of tuberculosis, but all other diseases which might affect their opportunities when they went abroad. He was not a partisan for or against testing stations, and in whatever course he should take he would be actuated only by a desire to help the export trade of both Scotland and England.—*The Times*.

Tuberculosis in France—Notification.

At Tuesday's sitting of the Academy of Medicine the motion of Dr. Roux, Director of the Pasteur Institute, to recommend the Government to make the notification of tuberculosis compulsory, was finally adopted by a large majority. The motion declared that it was in the interests of the public that every case of recognized tuberculosis should be compulsorily notified so soon as the diagnosis was established. It insisted that the notification to be made to the sanitary officer should be regarded as a professional secret and that the authorities should undertake, once notification has been made, to provide assistance both for the diseased persons and for their families, if necessitous.

It is estimated that nearly one-seventh of the deaths in France are due to this scourge.—*The Times*.

The Jewish Method of Slaughtering.

It may be recalled that a Shochet at Halifax was recently convicted for killing an animal according to the Jewish rites, and thus, it was alleged, causing it unnecessary pain and suffering. An appeal was thereupon lodged, and the result has been the squashing of the conviction by the High Court on the ground that Shechita is not more cruel than other methods of slaughter. We would go further and say, unhesitatingly, that it is positively far less cruel and infinitely less brutal. Against the windy declamation of anti-Shechita enthusiasts may now be set the considered judgment of an important Canadian Court. This is a development worth obtaining. It is significant that places so far apart and widely divergent in character as Nova Scotia and Finland should within a few weeks have stamped upon the mischievous anti-Shechita agitation.—*Jewish Chronicle*.

Proposed Veterinary Department for Edinburgh.

It was agreed at a meeting of the Public Health Committee of Edinburgh Town Council on Tuesday, July 20th, to remit to a joint committee of the Public Health and Markets Committees a motion by Councillor Bruce Lindsay as to the desirability of setting up a separate veterinary department for the city under a duly qualified veterinary inspector, and of transferring to said department the veterinary inspectors at present in the medical officer of health's department. A letter from Mr. A. M. Trotter, Association of Veterinary Officers of Health, Glasgow, with reference to the advisability of creating a veterinary department to deal with the supervision of the meat and milk supply of the city was similarly dealt with.—*N.B.A.*

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, July 25.

REGULAR FORCES. ARMY VETERINARY CORPS.

Capt. L. Daniels is seconded for service with the Egyptian Army. Dated June 20.

July 29.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Lieut. T. W. Lloyd to be Capt. Dated July 3.

Personal.

The Corporation of London have consented to Mr. T. DUNLOP YOUNG, M.R.C.V.S., visiting the chilled beef and frozen meat establishments of Argentina at the request of the Argentine Government. With reliable knowledge of all the facts—economic, scientific, and commercial—before them, we believe that the question of the re-admission of Argentine cattle to this country will assume a totally different aspect from that it now presents.—*Meat Trades' Journal*.

OBITUARY

WILLIAM MARK REEMAN, M.R.C.V.S., Bury St. Edmunds
Graduated, Lond: 1887.

Mr. Reeman died on Sunday, July 20th, from pneumonia. Aged 51 years.

SIR RICHARD POWELL COOPER, Bart., M.R.C.V.S., Queen's
Own Royal Yeomanry Cavalry, Lichfield.
Graduated, Lond: April, 1868.

We regret to have to announce the death, which occurred on Wednesday, July 30, at Berkhamsted

from double pneumonia, of Sir Richard Powell Cooper, of Shenstone. He attended the Staffordshire Agricultural Show at Wolverhampton last Wednesday, and introduced a deputation from Lichfield asking that next year's exhibition should be held there." He then caught a chill, but the next day left Lichfield for Berkhamsted. On arrival at Berkhamsted, however, he was taken seriously ill and proceeded to White Hill, the residence of his son-in-law, Major R. M. Foot, where he died. Sir Richard, who was born in 1847, was the only child of Mr. Henry Cooper, of Clunbury, Aston-on-Clun, Shropshire. He was a member of the firm of Messrs. Cooper and Nephews, chemical manufacturers and exporters of pedigree live stock.

Sir Richard Cooper had large agricultural interests. He farmed over 2,000 acres of his own land in England, mostly in Staffordshire, where he had his chief residence at Shenstone Court, Lichfield, but he also owned great possessions in land and livestock in almost every continent—in Australia, South Africa, Russia, the Argentine, and Paraguay. At Shenstone he kept a large herd of pure-bred Shorthorn cattle, as well as crossbred stock, a famous flock of Shropshire sheep, and large black Berkshire and Yorkshire pigs. His farms were managed on sound business principles, crop production and stock-raising being adjusted on the system of mixed farming that constitutes the highest form of economic husbandry.

It was his enterprises in the opening up of new countries that made Sir Richard Cooper so prominent in the work of making known abroad the qualities of British breeds for improving the native types. One of the keenest and shrewdest business men of his time, he was constantly on the look-out for new markets for our highly-bred stock, and Sir Richard had an intense love of country pursuits, not as hobbies merely, for he was a firm believer in the doctrine that all things of a commercial nature should be made to pay. The amount and value of his public work will probably never be known, for he shunned publicity. It is an open secret that it was he who came to the rescue of the Royal Agricultural Society, a body of which he had long been a council member, when the Park Royal venture failed, with a guarantee to bear any loss incurred in the first few years if the migratory show system were resumed. The resumption of the prize farm competitions was also due to his generosity in providing the prizes until the Society was in a position to take over the full responsibility. In other ways his tireless energy, shrewd initiative, and generosity were given freely and always with advantage to the cause of agriculture.

Sir Richard married, in 1872, Elizabeth Anne, who survives him, daughter of Mr. Elias Ashmole Ashmall, of Hammerwich, Lichfield. His elder son, Richard Ashmole, who succeeds to the baronetcy, is the member for Walsall; Sir Richard also leaves another son, William Francis, and three daughters.

The funeral will take place at Berkhamsted Parish Church on Saturday at 2 p.m., leaving White Hill at 1.45 p.m.—*The Times*.

VETERINARY INSPECTORS.

Sir,

At the present moment there seems to be some doubt as to who should be inspectors under the Tuberculosis Act. Allow me to inform all those who acted in the above capacity before the County Councils came into force that they become veterinary inspectors of the Council.

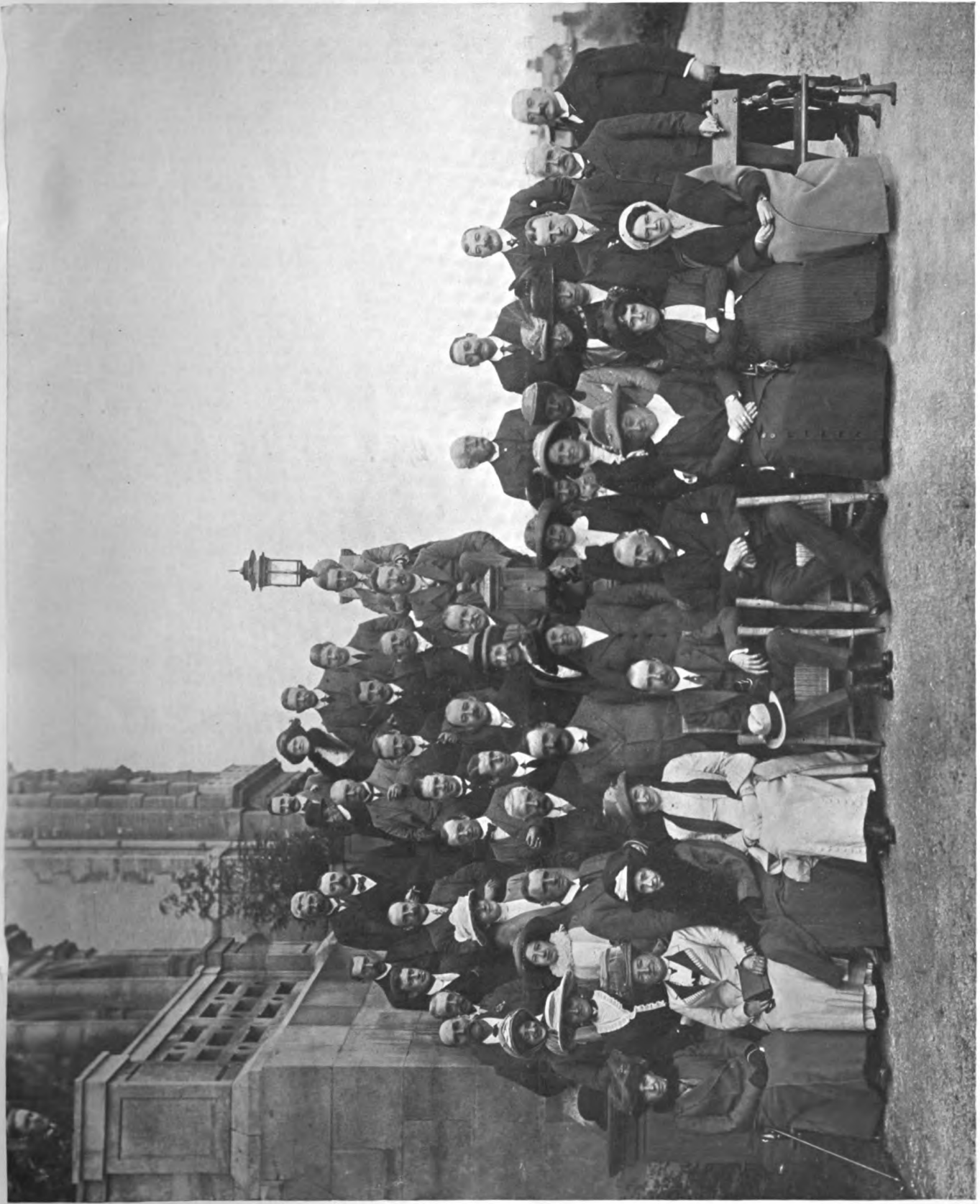
Should the Council consider any existing office unnecessary they will have power to abolish the office, but the officer will be entitled to compensation. All existing veterinary practitioners please note, especially "Scrutator."

—Yours truly,

July 28th.

EXISTING PRACTITIONER.

UNION
OF
VETERANS



YORKSHIRE AND NORTH MIDLAND VETERINARY ASSOCIATIONS AT BUXTON.

70 yml
ABSTRACT

THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1309.

AUGUST 9, 1913.

VOL. XXVI.

MILK FEVER.

Most of us can remember the days when the cause, the prevention, and especially the treatment of milk fever used to provide material for long and frequently recurring discussions. Hardly any animal disease gave rise to so much divergence of opinion, or was treated by such radically different methods. No real advance was made till the introduction of Schmidt's treatment; and, after that was once fairly established, milk fever began to take a much less prominent place in professional discussions than before. Schmidt seemed to have said the last word upon treatment; and the success of his method rendered prevention a much less important question than it had been. Yet we may still have a little to learn even as regards treatment—as, for instance, such points as the addition of adrenalin, which Mr. Wallis Hoare recommends, and which has also given good results upon the Continent. The discussion in our columns, initiated by Mr. Blackwell, shows clearly that we have something to learn as regards prevention.

The propositions put forward are all based upon clinical experience, and they reveal some differences of view. But, so far, there seems to be a general consensus of opinion against completely milking out soon after calving. This is not surprising in view of the success of Schmidt's method of distending the udder in milk fever, which naturally suggests some such procedure as that advocated by Mr. Blackwell as a preventative. That procedure seems to have much in its favour, but the experience of more than three or four men is necessary before its value can be judged. Again, Mr. Hoare calls attention to some well-known apparent contradictions in the incidence of milk fever which render it impossible to accept any method of prevention without most careful and extensive testing. There is another point which should be remembered in connection with apparent failures of Schmidt's treatment or any method of prevention, especially when they depend upon the evidence of laymen. Clinical records show that there are cases which closely resemble milk fever in their symptomatology, but in which the coma and paresis are due to quite other causes. Some of these cases may remain unrecognised, and thus help to confuse our ideas of milk fever, many of which are still vague and unsettled, the only method of improving them is the careful comparison of clinical experience.

Possibly no one practitioner may succeed in definitely establishing the cause of milk fever. But one practitioner devised a cure for it, and it is quite possible that others collectively may work out a satisfactory system of prevention.

THE PREVENTION AND TREATMENT OF MILK FEVER.

By E. WALLIS HOARE, F.R.C.V.S.

It might be imagined by some sections of the community that, owing to the marked success attending the modern treatment of milk fever, preventive measures would cease to be a subject of interest to the practitioner. This, however, is far from being the case, and we still seek to solve the problem of prevention, although the remedy is in our hands—a striking example of philanthropy, but one which we do not always get credit for.

In discussing the value or otherwise of methods of prevention, we must direct attention to certain points. In the first place, all practitioners must have observed the small number of cases of this disease that occur in some districts. It is not uncommon to find, on enquiry from the proprietors of large dairies in certain localities, that they rarely or never have a case of milk fever. Yet no precautions are taken—and the rules for prevention usually recognised are holdly transgressed—or it may happen that in a dairy in which for years no cases occurred, the proprietor becomes startled by having one or two animals affected, although no alterations were made in the *régime* or method of milking.

On the other hand we are equally well aware that, in spite of every means of prevention, cases will occur in some dairies.

The practice of leaving the calf with the cow for forty-eight hours is a very old method of prevention. It was advised by the late Prof. Williams, many years ago. That it fails in several instances we have abundant evidence to prove, and, moreover, there are certain drawbacks which cannot be ignored. It is well-known that when the calf is left with the cow for the period mentioned and then removed, the cow in many instances becomes very excited and bellows for long intervals; the complaint too is often made that she is difficult to milk, she "holds her milk," as the farmer says, and the calf does not readily take to the altered condition of feeding. However, this may be, I have now seen so many cases of the disease where this measure was adopted that I do not believe in its efficacy. I am the possessor of a very good cow which has had an attack of the disease in two consecutive years, although the above and every other preventive measures were adopted. It is a question too whether the calf can remove and use sufficient milk from the udder of a good milch cow, so as to prevent the evil effects of an accumulation of milk in the organ. Probably it may be said that in the case of a mare the foal is able to use up all the milk, but it must be

remembered that the cow is rendered more or less a milk-producing machine, and her natural conditions are altered to suit the needs of man.

From my observations on the disease I conclude that a method of prevention, which, at any rate seems to prove useful in many instances, is to avoid milking the cow dry for some days after calving. My instructions are, to milk her at intervals, but not to let the udder get too full. This I have found more effectual and more acceptable to the owners, than the plan of leaving the calf with the cow.

As regards any ill-effects from relieving a full udder prior to calving, I have never observed any; in fact, in the majority of cases of the disease I have met with, the udder had not been interfered with. Unless the organ is distended, I do not see any necessity for milking prior to calving. Experience of the disease under various conditions has taught me that many of the etiological dogmas laid down cannot be accepted. High condition, hot weather, etc., no doubt may act as predisposing causes, but when one meets with cases all through the winter months in cows whose condition is low, one is forced to be sceptical in this direction.

One factor, however, must receive due attention, viz., a large number of cases occur after the first milking, the initial staggering being observed very often at this period. But it must be admitted that cases occur at other periods; and it is then permissible to doubt the influence of the sudden emptying of the udder.

I have seen a case in which the symptoms presented themselves prior to calving, the animal going down in the afternoon, calving within twelve hours and still showing the usual symptoms. Treatment was adopted both before and after parturition, and was successful, but the animal did not get up until six hours after delivery.

Although the air treatment is so successful, yet certain cases will terminate fatally, and we know little or nothing with reference to the cause of death. No doubt some practitioners boldly assert that they *never* lose a case, just as they deny that any colt castrated by them could possibly die. This may be pure luck—or a bad memory.

I have observed that a small flabby udder, which is difficult to inflate, is an unfavourable sign. Relapses of milk fever are not uncommon, and I believe are due to early and complete milking after an apparent recovery, *plus* too much bulky food and exposure to hot sun. Attention to these details will often prevent a relapse.

In cases that are slow to get up, or in those where a second or third inflation of the udder fails to accomplish the desired effect, I have found that the hypodermic injection of adrenalin (1 to 1000) in doses of from 5ij. to 3iv., according to the size of the cow, proves very successful.

With reference to cases that occur some time after calving, we must admit a difficulty in the diagnosis in some instances. Although they yield to inflation of the udder, it must be remembered that chronic gastro-intestinal catarrh in cows after calving, is successfully treated by similar means. In this latter affection, nervous symptoms may occur,

and render a differential diagnosis by no means easy.

The simple inflation of the udder and its results in the disease mentioned is an object lesson in therapeutics. Schmidt deserves the highest honours that could be accorded to him by the veterinary profession and by stockowners, yet had he discovered some special bacillus in connection with the disease and failed in the successful treatment of it, no doubt he would have received more reward. It would be difficult to estimate the enormous saving in milch cows which has resulted from his discovery. In addition to this it suggests that simple measures may be discovered in the future for the successful treatment of diseases which at present fail to yield to "shot-gun" pharmacy. No doubt from a commercial aspect, so far as the practitioner is concerned, the ledger will not benefit to any extent, as thanks to the popular veterinary lecturer the majority of stock-owners in some districts have now added the milk fever outfit to their medicine chests, and only send for the veterinary surgeon when the case is going the wrong way. Too often he is called in to give the *coup de grâce*, and gets the credit when the case terminates fatally.

MILK FEVER IN COWS: SUGGESTIONS FOR PREVENTION.

I was on the point of recording a case of the above I had about three weeks ago, and it was with much pleasure and great interest that I read Mr. W. E. Blackwell's article in *The Veterinary Record* of July 19th, and again Mr. T. A. Huband's in the following number. Mr. Blackwell's communication recalls to mind an article I wrote in January, 1877, on Milk Fever in Cattle, which was published on February 1st of the same year in a paper called *The Practical Farmer*, issued by Messrs. Gouldings, of Dublin, and edited by a very old friend, the late Mr. J. S. Smithson. The article with a supplement, along with reports from several other members of the profession, was reproduced and recorded, with the proceedings of the tenth general meeting of the National Veterinary Association, held at Glasgow in August, 1892. Again, extracts from that paper were recorded in the first volume of my "Elementary Veterinary Lectures," published in 1895, and although it is thirty-six years since I wrote the first article, I think I may be pardoned for giving herewith a few extracts from it, as it shows that the views I then held, and still hold strongly, have by the latest mode of treatment been confirmed, i.e. that the derangement called milk fever in cows has its origin in the udder, and the real exciting cause is the *removal of the pressure by the too sudden withdrawal of all the milk either before or after calving*. Will you, Mr. Editor, kindly excuse me if I record a real canny old Cumberland "crack" which took place in 1872, and prior to writing my first article, and which was the means of drawing my attention to the udder as being the seat of the exciting cause. It was in the parlour of a well-known and eminent agriculturist and stock-breeder, the late Mr. John Blackstock, of Hayton Castle,

Cumberland, a great friend of the Druid. Mr. Blackstock was a noted breeder of hunting and carriage horses, and highly bred Shorthorn cows, and he suffered heavily from milk fever amongst his fine bred animals. On this particular night he said to me "Doctor,"—a title he always gave me—"I have just been at the Duke of Devonshire's, Holker Hall, buying a young pedigree bull, and I have had a long chat with John Drewry," at that time the well-known herdsman of Holker Hall, "he has just come back from London, where he has been making enquiries of the London dairymen," who at that time bred calves, "if they had got any preventive for milk fever, and the reply was, not to milk the cows for two or three days after calving; leave them alone, and then only take small quantities at a time several times a day. Drewry has tried it and found it to answer." "Now, Doctor, what do you think of that; does it stand to reason to leave a cow with a big udder so long without milking?"

After some meditation I concluded that the idea was right and in accordance with nature's laws, and the following reasons bear it out, which I have extracted from the article I wrote in 1877:

"1st. Would the calf if left with the parent, as it would be in nature, take all the milk at once from the udder? Decidedly not.

2nd. The mare is seldom, or never, troubled with this malady.

3rd. It is rarely, if ever, seen in ewes, simply because their offspring are allowed to take small portions of milk as often as they like, drawing it from the udder in very little quantities."

But this is not so with the cow, more particularly the deep milker, which is most liable to the affection, and often about the third, fourth, or fifth calf, because the gland by this time, from excessive usage, becomes more developed, not only to supply milk for its young, but also dairy produce for mankind.

As the time draws on for calving, the udder becomes enlarged and gorged, pressing upon the nerves of that organ to such an extent that sensation must be totally or partially deadened—paralysed. This state continues for a few days, but as soon as the cow calves, down sits the milkmaid and draws off all the milk at once, thus removing the pressure that has existed for some time. Reaction next sets in, which the writer is led to believe is somewhat analogous to the pricking, tingling sensation, which every one has at some time or other experienced, by "sleeping" as it is termed, of the leg or arm; this peculiar feeling being transmitted along the sympathetic nerves of the body, causing uneasiness and general nervous derangement, which is still further increased not only by the recent expulsion of the foetus, but also by the removal of the calf from the presence of the mother, thus causing a collapse of the secreting portion of the udder, and total cessation of milk.

It stands to reason that the elements entering into the composition of the "colostrum," or "beastings," which are of a nitrogenous nature, and at this time contained in the system of the cow—

more particularly if the animal is a deep milker—would naturally be eliminated from the body by the function of the udder. But as the udder is not acting, these elements are retained in the circulatory system, where they not only act as a foreign body, but have a toxic effect on the nerve centres, and cause the peculiar excitement seen in the early stages of the derangement, this excitement being succeeded by total prostration of the whole nervous system, in which all the organs of the body participate, and is followed by congestion of the structures.

Therefore, as a preventive of this very frequent and fatal malady, I strongly recommend that the udders of all heavy milkers be drawn six to eight times during the twenty-four hours for the first three or four days after calving, or until the milk is said to be clear of the "beastings," taking from three pints to two quarts each time. For the last four or five years, or since our friend named the matter to us, a number of our employers and others have adopted the plan, and we are glad to say with highly successful results. We now and again meet with a case, and upon inquiry find that immediately the animal calved she was "clean milked and well stripped."

I may here state that the late Mr. Blackstock tried the experiment of not milking the cows, for two or three days after calving, on some Irish cattle with the best success before adopting it in the high bred animals, and although the udders were hard and distended no case of mammitis or other ill effects followed.

The foregoing remarks and extracts, go to show that the sudden removal of the pressure from the nerves and blood vessels of the udder, by the withdrawal of all the milk at once is no new idea, and I quite agree with Mr. Blackwell's last paragraph, that is, "do not milk the cow for forty-eight hours after calving, but allow the calf to suck in the natural way." The latter mode of leaving the calf with its dam, for the first three or four days after calving, has been regularly practised for more than thirty years by a number of breeders in my district.

With reference to Mr. Huband's note, that the idea of not milking the cows, or leaving the calves with the cows, has escaped the notice of our teachers and those who have contributed to our literature on the subject, I may say that I have lectured to the students of the Aspatia Agricultural College for nearly forty years, and have strongly advocated these measures, whilst they have also been recorded in all the four editions of my Elementary Veterinary Lectures, which Mr. Huband most likely has not seen.

The case I have now to record is as follows: I was called to a cow on Sunday at noon, July 6th, said to be bad with milk fever. The cow had been well doctored by the owner with an agent called in this locality "the lifter," a preparation of Chloral hydrate, and in the hands of almost every farmer about here. She was in a semi-conscious condition, and as the man thought she would come through with the "lifter" I left her alone, but towards night

she gradually grew worse, and became comatose. I therefore distended the udder with air injected into the teats by the means of a special fitting to a bicycle pump. In eight hours the cow was on her legs and seemed quite correct. Twelve hours later she had a collapse and went down again, and became quite unconscious. The udder was again injected, and within two hours—marvellous to say—she was up again and made a complete recovery, and was sold within a week. This is only one case of many of a similar character in which the simple distention of the udder with atmospheric air has been used. (The best plan, I have found, for the removal of the air is to put the calf to the cow, as the sucking by the calf brings the udder soonest to its normal condition). From the rapid recoveries by this simple means—returning the pressure as it were—I am strongly of opinion that there is no septic material about the derangement: the changes take place too quickly for septic action. There exist only disordered functions, due to the *sudden removal of the pressure* which, I think, is the whole crux of the question, and the distention of the udder again with air goes to prove that my views of nearly forty years ago are being verified.

My definition of milk fever in cows is, therefore, a mechanical disturbance inducing a physio-pathological derangement, which is again restored to a normal condition by simply mechanical means,

HENRY THOMPSON, M.R.C.V.S.

Aspatia.

"AN OPEN JOINT."

Ten weeks ago one of my clients called my attention to one of his van horses as it had a small punctured wound six inches below the elbow joint, about the size of a shot corn, and was discharging a very small quantity of bloody serum. The animal was perfectly sound, and had worked two long journeys—about 60 miles—since first it was noticed. I advocated the use of antiseptic lotion, rest, and green food, also to place the horse in a loose-box, thoroughly expecting that in the course of a few days nothing further would be required.

This expectation was not realised, as I was called to examine him again, and found a swollen joint, very lame, and a case for deep consideration. Hot antiseptic fomentation was prescribed, a dose of physic administered, and the animal was placed in slings, which were taken to splendidly. Several days elapsed with no further developments, then I noticed a collection of fluid round the point of the elbow. Exploration found pus, and this was evacuated to the amount of about a quart. A surgical wound was carefully made so that drainage could be obtained, and I, personally, undertook the future dressing. Under treatment this wound healed; still the horse remained very lame, and the limb useless. Several days later the original punctured wound commenced to discharge "joint oil," and in spite of various dressings, which have in other cases been used successfully, the discharge became

more copious, and several other points of discharge appeared. I then ordered a hose pipe to be laid on and cold water applications to be applied continuously.

During the whole period in slings the horse ate and drank both well and heartily, consequently not much condition was lost with the exception of the muscles of the affected limb and shoulder, but as no progress was being made, and the owner's patience having vanished, we decided to slaughter and finish it off. This was carried out, and twenty years experience got a shock—one of the recurring ones we get, if not too conceited to admit them—and a condition of things which is good for a superabundance of egotism, if the unfortunate possessor of such a temperament is not too far gone.

I had the skin carefully removed, and over the area—where the punctured wound showed itself—the whole of the underlying tissues were broken down and purulent. Following this area upwards we had quite a channel direct into the elbow joint, and from several other parts the contents of the joint—joint oil—was passing to points on the skin where it was evacuated. But the surprising feature has yet to be related, the joint itself was very greatly involved, the surface of the inner condyle of the humerus was eroded and completely fractured, the head of the ulna was fractured, and there was a splintered fracture of the radius. These, of course, were in a more or less partially united condition, but still they were obvious to a casual observer, and the presentation of such a condition as here related is, needless to say, a subject for serious reflection.

It is not so much the case as described to which I would draw attention, but the possibilities of not having been sufficiently careful in my earlier examination; but what appears strange to me—on recapitulation of the whole case is, how, and when did the fractures arise?

The driver states—and I have every reason to believe him, that to his knowledge no accident occurred to the animal; the first thing noticed was the small puncture, and the slight discharge, she worked several days afterwards, and was not lame. The lameness appeared gradually, together with the swelling. No evidence of fracture presented itself—perhaps, and it is probably correct, I did not sufficiently examine the joint, owing to a preconceived diagnosis. Yet, so far as I can judge, the fracture must have been in existence at the time and, further, is it not uncommon in these cases to find an animal so slightly affected constitutionally?

The moral in this case seems to point to one thing—submit your diagnosis to further consideration, as well as your patient.

W. BROWN.

Workshop.

The Director of the Pasteur Institute, M. Roux, reports experiments which have been made by MM. Nicole and Conseil with serum taken from parotid glands of patients who were suffering from mumps. A number of monkeys were inoculated with the serum, and a mild form of the disease was produced, which gave immunity against further infection.

CLOVE OIL FOR OPEN JOINT.

About six weeks ago I was asked to look at a lame horse. Examination revealed a small wound on the outside of the leg, about an inch below the fetlock joint. Instructions were given as to cleansing and dressing, but the wound was not probed. A few days afterwards a splinter of wood appeared at the orifice, and was removed. Following this the leg commenced to swell; pain and lameness became excessive, and synovia appeared. The wound was syringed three times a day with corrosive sublimate solution, an antiseptic pad put on and retained with a calico bandage, and on top a thick woollen bandage from the coronet to the knee, soaked in weak Jeyes' fluid solution and pulled tight. After about four days of this treatment the animal was worse than ever; the bandages each time were soaked with synovia. The leg was badly swollen—no weight placed on it, and emaciation was rapid, the horse lying most of the time. By now the wound cavity appeared to run round the back of the fetlock, and would hold a 10 c.c. syringe of liquid. Having read in *The Veterinary Record* some time ago that clove oil is recommended for open joint, I syringed out the wound, injected about 1 c.c. of this into it twice daily, keeping my finger on the exit for about one minute to allow of penetration, then applied the antiseptic pad and bandage. This caused rapid filling of the cavity by granulations, and closure in about four days, a big excrescence of proud flesh growing on the wound orifice completely closed it. After closure, the leg swelled worse than ever, but bandaging, and later a blister were employed for reduction purposes, and the animal is almost sound again.

I do not maintain that the wound was into the fetlock joint. It may have involved from its position, either it or the sesamoid bursa, or the sheath of the flexor tendon—or all three. The symptoms, however, were very urgent, and pointed to very serious lesions, and I am confident, after this experience, that open joint need not be despaired of, if a fair amount of immobility can be secured, and the wound kept aseptic. In this case microscopic examination of the discharge at intervals showed that sepsis was maintained throughout.

F. J. DUNNING, G.V.S.

Lydenberg, Transvaal.

ANOTHER PECULIAR CASE.

A case came under my notice similar to the one described by Mr. Maquire. It is now some eleven years ago when one morning I was called, or rather sent out to see a cow which, by the description of the messenger, had a great difficulty in breathing. I found the animal presenting these symptoms:—In great distress, standing with fore legs wide apart, eye staring, "fixed" in its socket, livid in colour, nostrils dilated, animal breathing very rapidly, with a difficult inspiration, pulse rapid, the whole energies of the animal seemed to be in the act of breath-

ing. I had never previously seen a case similar in the cow; but I drew my conclusions from similar symptoms in the horse, and decided I had to deal with a case of asthma. I gave a stimulant; left another to be given in three hours time, and I called again the same afternoon, when the original symptoms were much the same, and to my surprise there was a huge swelling extending from the withers and the fore legs along the sides and back as far as the anus and the vulva. The swelling was crepitous, and upon puncturing the skin the exudate was of a frothy serous nature; devoid of blood, with the peculiar odour of the discharge from black-quarter. I, now along with my principal, came to the decision that it was a case of subcutaneous emphysema following asthma. The case starting in asthma causing emphysema of the lung with rupture of the smaller air cells and the pleura, the air escaping and working its way along and between the loose tissue surrounding the blood vessels and eventually leaving the thorax by the brachial or dorsal exits. In this case it was evidently by the brachial, as the first appearance of the swelling was just behind the scapula. Our case ended fatally about the fourth day, and unfortunately no post-mortem was made.

UNO.

EASTERN COUNTIES
VETERINARY MEDICAL SOCIETY.

A meeting was held on Thursday, July 24th, at the Great White Horse Hotel, Ipswich. In the unavoidable absence of the President, Mr. F. B. O. Taylor, who was engaged in London, Mr. F. M. Wallis, Halstead, was voted to the chair. Others present were Messrs. T. G. Heatley, Woodbridge; T. J. Faithful, Hadleigh; P. Turner, Ixworth; W. J. Browning, Ipswich; T. E. Auger, Wymondham; A. F. Castle, Phillips, Ipswich; Sidney Smith, jun., Lowestoft.

Apologies for absence were received from Sir John M'Fadyean, Messrs. F. L. Gooch, W. Shipley, J. E. Kitchin, H. V. Low, J. Barr, H. F. Downe, B. W. Bloomfield, Sidney Smith, Sen., M. Bray, W. Turtill, H. E. Wilkinson, A. H. Santy, Jas. Robertson, H. Buckingham, J. Buckingham, J. Hammond, E. H. Leach, W. Waters, J. R. Godbolt, A. P. Burgon, D. S. Jack, J. Bee, J. F. Thurston, E. Margaron, E. A. Hudson, A. McTurk, C. C. Nesling, J. Cleveland.

CONDOLENCE.

The CHAIRMAN said before they took the business it was only right he should express the grief and sorrow they all felt at the loss by death of one of their members, Mr. W. M. Reeman, of Bury St. Edmunds. He was sure they would all wish to extend their sympathy to Mrs. Reeman in this great trouble, and he moved that a letter of condolence be forwarded by the Hon. Secretary.

This was carried in silence, the members upstanding. Mr. Reeman's death created a vacancy in the auditors, and on the proposal of the Hon. Sec. it was decided to fill this at the next meeting.

The minutes of the last meeting were taken as read and adopted on the proposal of Mr. Auger, seconded by Mr. Heatley.

Next Meeting.—Mr. HEATLEY proposed that the autumn meeting be held at Great Yarmouth. Mr. Auger seconded, and this was agreed to.

The HON. SEC. said he had received a promise from Mr. Sidney Villar to read a paper at the next meeting, and it was resolved, on the motion of the Chairman, to invite Mr. Villar to take for his subject Bovine Tuberculosis, with special reference to diagnosis.

CLINICAL CASES.

The HON. SEC. said he recently had a case of œsophagotomy. The patient was a little black and tan dog with a lump in its throat, and on examining it he could only conclude there must be something stuck in the œsophagus. Obviously the only thing to do was to attempt an operation. He gave two-thirds of a grain of morphia hypodermically, and anaesthesia was completely successful. He had no difficulty in performing the operation, and on cutting into the œsophagus took out a piece of hard cartilage about the size of half-a-crown. He took the usual precautions in regard to asepsis, and sutured the œsophagus with catgut and the skin wound with silk. The dog made an excellent recovery. It was not exceptional, but it was undoubtedly rare to get a case of obstruction of the œsophagus.

"Cæsarean" on a Bitch.—The pup was dead and attempts by traction simply brought away bits, while the main part of the fetus remained out of reach. The only thing left was to attempt the Cæsarean operation. He had the animal at his infirmary and used 1½ grains of morphia, and when anaesthesia was complete, was able to perform the operation. Both horns of the uterus contained fetuses. Finding it impossible to complete the extirpation of the uterus with the whole of contents, he made an opening in one of the horns whence he removed the fetuses, four living and four dead. He then removed the whole of the uterus, stitched up the muscle and skin and put the bitch in a kennel. She lived nine hours, and then died from collapse. She recovered consciousness completely, but the membranes were very cold, and she never looked like living.

The next problem was to save the pups. He placed them in front of the fire in a blanket with a hot water-bottle. One was weakly, and was promptly knocked on the head. To the other three lactol was given every two hours from a feeding bottle, and they were kept quite warm by changing the hot water bottle at intervals. After three days of this, he was able to secure a foster-mother, and the pups were with her and had every appearance of doing well. As they were exceedingly well bred it quite repaid the trouble taken. He mentioned the case as showing that the cæsarean operation was well worth trying. It would have been impossible to deliver these pups alive in any other way, and in any case the bitch would have died. As the result three pups were kept alive.

Mr. HEATLEY asked how long after morphia administration, complete anaesthesia was obtained?

The HON. SEC. replied in from a half to three-quarters of an hour.

The CHAIRMAN said these cases were very interesting and he had had several. Some had been successful and some had not. One was a bull bitch in the same condition as the Hon. Sec. had described. Several pups were dead, but there were three live ones. He performed the cæsarean operation and removed six or seven pups from the uterus. The three live ones he took care of, and they all lived about six months, but came to a bad end; two were killed accidentally. There was no doubt that part of the uterus was gangrenous from the dead pups. She was a valuable bitch, but lived only about ten days. A friend told him if he ever had such a case again to take away the whole uterus or else he would lose the bitch every time. He had always done so since, but even then it was not always successful. The case might have gone too far before they got a chance to operate. Morphia was a perfect godsend in

canine practice, and he would not be without it now but he did not find it so successful with cats.

Mr. HEATLEY enquired what the dose was for an ordinary fox terrier?

The CHAIRMAN said he gave up to 1½ grains.

The HON. SEC. said he thought one grain sufficient.

The CHAIRMAN said 2½ grains was the quantity for a retriever. They sometimes had cases of pus in the antrum in big sheep-dogs and morphia was wonderfully useful. They did not feel anything, and the great thing, especially with regard to the cæsarean operation, was that they laid quiet so long after it without interfering with the dressings.

Mr. HEATLEY said he had lately examined some animals for insurance, amongst them was a three-year-old Shire filly. She had not foaled up to time, and was a fortnight over when he was asked to see her as she was suffering from abdominal pain which he naturally thought was foaling about to commence. He found no efforts at foaling, no preparation, the os in perfectly normal condition. He treated her for an attack of indigestion, and she got all right. A fortnight later she had not foaled, and at that time her body was distinctly smaller and the mare was looking listless. He saw her again several times until she was nine weeks overdue; there was no alteration in the condition of the vagina or os. As the mare was insured, the owner was getting anxious, and the insurance company was inclined to disclaim liability. She eventually died, having lost condition very much, got very weak and hidebound, just dragging herself about. He asked the insurance company to send a representative to the post-mortem, as he felt sure it would be an interesting case. This was done, and they found the uterus contained a fully developed fetus. There was considerable peritonitis of an adhesive nature. He noticed a loop of bowel was apparently firmly adherent to one of the concave horns of the uterus. Then a foot anterior to the os was a complete twist of the body of the uterus. He could feel nothing through the vagina, no tension, and no suspicion of a twist. He had thought it might be rupture of the muscular coat of the uterus. The twist was so complete that the diameter was no more than two inches. The uterus was cut into and a dark coloured fluid came away. The hair was just coming off the foal. He had never heard of a similar case. Probably the twist occurred in early pregnancy.

The CHAIRMAN said he had a cart mare die a few days before. The double colon was found twisted twice over and very full. He had never seen quite such a bad twist with the double colon so full before: it was as much as a man could do to twist it over. It was marvellous how such things occurred.

CENTRAL VETERINARY ASSOCIATION (IRELAND).

A meeting was held at Turner's Hotel, Cork, on the evening of July 8th. Mr. B. P. J. Mahony occupied the chair.

An apology for non-attendance was received from Mr. W. C. Patrick.

New Members Messrs. A. J. O'LEARY, E. J. O'RIORDAN, T. M. RYAN, Limerick; and T. O'LEARY, Macroom, were elected members of the Association.

The minutes of the last meeting were read and confirmed.

The HON. SEC. announced that he had no correspondence to submit to the meeting.

THE ANÆSTHETICS BILL. THE TUBERCULOSIS ORDER.

Mr. WINTER: Does the Anæsthetics Bill apply to Ireland?

Mr. HOWARD said that it would apply to every place where it was put into force. There was no likelihood of the measure being carried immediately, but there was no doubt that it would be brought before Parliament until it was passed. Personally, he thought it would be a foolish attitude on the part of the veterinary profession to show any antagonism to the Bill. They claimed scientific methods, and they ought to take advantage of every scientific method for the alleviation of pain, and instead of doing anything to oppose the Bill, he thought that they should write to the approaching meeting of the National Veterinary Medical Association, with the view of seeing what amendments were necessary to make the Bill a feasible and workable Bill. He thought that that would be the proper course to adopt instead of opposing the measure.

The PRESIDENT: I quite agree with you in a certain sense, but why should the Government make it compulsory on us. Do they make medical men do it?

Mr. HOWARD: The medical men have not been waited on to do it.

Mr. HEALY: It does not affect us so much in Ireland as it does in England. Of course, in England there are any amount of quacks, and they want to cope with them. That is the question of affairs.

Mr. CLANCY said that it would be a good job if it did away with quackery also in Ireland.

Mr. HEALY then referred to where a member of the profession had lowered the fee in castration practice.

The PRESIDENT: That is a matter that should be put in writing and we will deal with it.

Mr. HEALY said that he would do so; and the meeting then decided to write to the gentleman about whom the complaint was made.

Mr. WINTER: We are supposed to be still discussing the Tuberculosis Bill. The Bill does not prevent any man using an anæsthetic. A quack can use water and say that it was an anæsthetic.

The PRESIDENT: I think there is nothing to prevent him using it. In reply to a question by Mr. Winter, he said the Bill does not apply to yearlings, but to two-year-olds and upwards.

Mr. HOWARD then proposed that the Hon. Sec. should write to the Secretary of the National Veterinary Association asking that an effort should be made to have the Anæsthetics Bill so amended as to make it an acceptable and workable measure.

Mr. CLANCY seconded the motion which was unanimously adopted.

Mr. HOWARD said that in connection with the Tuberculosis Order, he was sure that all the members had got a list of the fees which were adopted in Dublin by the Veterinary Medical Association. He noticed, however, that certain gentlemen had held a meeting at Mallow, and he thought that that meeting was called to try and create trouble with the Association.

The PRESIDENT: I don't think there was any member of our Association present at that meeting.

Mr. HEALY: It was a meeting of the Veterinary Inspectors of Munster, but these people have no grievance at all to ventilate. They were never members of our Association.

The PRESIDENT: If they were members of our Association I would say that it would be a good thing for each province to take action, but where there is one Association working for the betterment of the profession, I think it was very bad policy on the part of these gentlemen to hold a meeting on their own behalf.

Mr. HOWARD: We had a meeting of the Association in Dublin, and after careful consideration we arrived at that scale of fees. It is the highest we can expect where the County Councils adopt the Bill.

The PRESIDENT: Mr. Healy is attending this meeting to-morrow, and Mr. Healy should tell these gentlemen that this matter has been discussed by the recognised

Veterinary Associations in Ireland, and that they should not go outside these Associations in connection with the matter. Tell them that we have taken action and that it is unnecessary for them to do so.

Mr. HOWARD: Our Association is the Association that is looking after the interests of the profession, but of course you can understand now, some of these men were attracted to that meeting, as an Inspector's meeting.

The PRESIDENT: What will be our decision?

Mr. HOWARD: I have great pleasure in proposing "We have considered the Tuberculosis Order and approve of the scale adopted by the Medical Veterinary Association of Ireland."

Mr. HEALY seconded the motion, and said he would lay that matter before the meeting to be held on the next day.

PRESIDENTIAL ADDRESS.

By B. P. J. MAHONY, M.R.C.V.S.

The PRESIDENT: I am sorry that our meeting to-night is so small in numbers. I thought we should have in attendance some young members who would benefit by the discussions that take place. However, I am glad to see such old and true-hearted members present, and I hope our proceedings will do much good.

Gentlemen, allow me to thank you for the honour you have conferred on me in electing me as your President for the coming year, and the more so as I am aware there are several other members of this Association far more worthy and capable than your humble servant to fill the Presidential Chair. But as you were so good as to bestow such a high honour on an humble member of your Association I shall do my little best to fill it, though it is with considerable diffidence I do so when I reflect on the many able members who were the occupants of this chair in the past. In doing so I will look to your co-operation and support during the time I have the honour to be your President, that you will overlook the many faults on my part, and I trust that my term of office will be pleasant and advantageous to us all. Were it not for the assistance I am sure to get from our worthy Secretary, and that I am aware of the good fellowship that exists amongst us as members of this Association, I would have shrunk from accepting so high an honour.

I am glad to see so many old faces at this, our first meeting for the coming year, and trust that when the curtain falls on 1913 you may still be busy members of the profession. It is an old saying that "you should practice what you preach," but I must admit I am not such a constant attendant at the meetings of this Association as I would wish to be, still I have a deep interest in every one of them, and in anything appertaining to the advancement of the profession, for I am of opinion that nothing tends to advance it more than these meetings, where we come together in a social manner, and in good comradeship, to interchange our opinions.

I am glad to see the young members amongst us, as it is to them we look to keep the standard of the profession flying and the good old ship afloat, and to steer it with an even keel amidst the rocks and shoals that beset it on every side.

When I look back to the time I had the honour of entering the profession, I am amazed at the rapid strides made and the good work done for the community, the alleviation of suffering to our dumb friends, and the prevention of the many dread diseases that were a scourge to the country. At the time I mention, chloroform and local anæsthesia, especially the latter, were scarcely ever used; now they are in every-day use, to the advantage both of the patient and the operator. Consider all the dreadful diseases that in my early days were so little known and practically no trouble taken to

prevent their spread through the country. Now, thanks to the advancement of science, they are comparatively simple and amenable to treatment, and to the Veterinary Branch of the Department of Agriculture and Technical Instruction also, these diseases are a thing of the past.

Speaking of what the profession has done, I may mention the last outbreak of foot-and-mouth disease. With the details you are all well acquainted. Were it not for the way in which the profession, to their credit, fought it, what state would we be in at present, with our ports closed and cattle trade at a stand-still?

And here I may mention the great loss we have sustained by the death of Mr. Hedley, who did not spare himself in advancing the profession, and who, although suffering badly at the time, fought it, and just as he was being crowned with the reward of having stamped it out, he was snatched from us, but it is a great pleasure to me to know, and I am sure you all will agree with me, that his place is filled by one in whom we all may place the greatest confidence, I mean Mr. Prentice.

In every outbreak, owing to the Department's diligence and care, they were able to confine it to their own area, whereas, I remember when the whole country was teeming with it, and the loss could be put down at millions. Now, thanks to the members of our profession, I hope that condition is a thing of the past.

The same may be said of pleuro-pneumonia, rinderpest, rabies etc. I know what was the work required in dealing with these diseases, for I had to deal with the last outbreak of pleuro-pneumonia in Ireland, now about twenty years ago, and I can quite fully understand the work in it, and although we stamped them out to the detriment of the profession, still we willingly did so for the betterment of our fellow men and the country. I am glad to see that the public are beginning to recognise the good we have done by the creation of new officers under the Dairies and Milk Shops Order, and the Tuberculosis Order. Though the salaries given in connection with the carrying out of these Orders are tardy and unremunerative, still it is leading towards a recognition of the good that the veterinary profession can effect. I hope that the young members will show that they are worthy of far greater regard than we are getting at present. It is in their own hands. It is for them to be up and doing, and taking advantage of the numerous means now at their disposal for the advancement of the profession. I must say that, personally, it would be a great thing for me to see our profession attain that high standard of efficiency it should hold amongst the other professions.

I hope our meetings during the year will not alone be instructive but enjoyable, and that we shall have some very interesting papers read. There should be a willingness among us to bring forward papers, and make our meetings worthy of attendance, and to know that when we come, some of us come at a little inconvenience, that we shall be able to say to ourselves that I was rewarded for the trouble I took in coming. I should like to have the elder members read notes on cases, and to bring as many specimens as possible, for I find these will be most interesting, especially to the younger members, who have not yet got the practical experience that will guide them on until they have attained that knowledge, when they, in their turn can do what we are now doing. And for the younger members to bring interesting papers, bringing to us new scientific light, so that they will wipe the dusty cobwebs from the brains of the old members, and by that means keep the Association flourishing, as it has been since it was started on such a good basis by the worthy members, some of whom I am sorry to state have gone to their reward, but who have left a foundation that I have no doubt is built on a firm rock.

I hope that we shall be able to arrange a place for our next meeting that will be suitable to most, if not all, of our members, for it is by the number of attendances that the soul of this Association is kept alive.

Last, but not least, I would ask every member to pay his subscription punctually. The amount is not much, but, like the bundle of sticks, when all the members' little mites are put together it will make a strong bundle that will resist any unlooked for adversary to break it, and that bundle, as our Hon. Treasurer had hinted to me, is very slender at present. I hope by the time I shall be relinquishing the chair to a more worthy member, that we shall be in a strong financial position.

I am thankful to you, gentlemen, for listening to me so patiently, and am sorry for taking up so much of your time, especially when I know that some of you are tired after a hard day's work.

Mr. HOWARD said it was worth their while to keep their Association going, and he was sure the President's able and interesting address would do much to encourage them in the useful work in which they were engaged. He therefore begged to propose that their best thanks be tendered to the President for his very able address. (Hear, hear.)

Mr. HEALY seconded the motion, which was unanimously adopted, and the President suitably replied.

Mr. WINTER: As regards the poor attendance of members at our meeting to-night, I wish to say that we cannot help it. It is not our fault, as we always do our best in the interests of the Association and the profession as well as our members. Whenever the members of our Association want us to do a job for them, they turn up in force, and now some of the profession want to do a job on their own account. I hope they will be successful, but I am afraid they won't, as they are not recognised.

The PRESIDENT: No matter how they turn up, we will continue our work. (Hear, hear.)

"A DAY IN THE LIFE OF A COUNTRY PRACTITIONER."

E. C. WINTER, F.R.C.V.S., Limerick.

Mr. Chairman and Gentlemen,—As Secretary to this Association I find the greatest difficulty in providing material for discussion at our meetings, and despite the assurances of our Treasurer, at the meeting held in Dublin in January, that he would see to it that we had a paper for our next meeting; that paper was not forthcoming, and the Limerick meeting in April was abandoned. It struck me on the 6th February last that a day's work I had done would not be unproductive of a discussion, and I took notes thereon, which I reproduce here for criticism.

1.—CHRONIC SPLINT LAMENESS IN A HUNTER, WHICH, FROM BEING A GOOD RIDER, BECAME A BAD HACK AND AN INVETERATE STUMBLER.

The splints, as is usual in these obscure cases, were small and not visible, but were multiple, and the heels became contracted, the frogs being well off the ground. The lameness had been intermittent all through the season, first in one leg, then in the other, and the owner, as is often the case, put the affection down as rheumatism.

Treatment.—Cutting down the heels till the frogs rested on the ground, and keeping ordinary white lotion bandages on the legs day and night while in the stable, and applying the cold hose as often as possible through the day. This treatment kept the screw going one day a week for the season, and a couple of mild biniodide of mercury blisters, and turning out to grass since has completed the cure.

I may add that splints in my country give a lot of trouble, owing to the large amount of lime in the soil, forage, and water.

In every case of long continued splint lameness you get contracted heels, and also, very often, broken knees.

2.—ORCHITIS IN THE DOG DUE TO LONG-STANDING GONORRHOEA.

The patient, a brown retriever, was so swollen about the testicles, scrotum, and the region of the prostate glands, that he was incapable of swimming and would have been drowned the day before, only that the owner had helped him out of the water.

Treatment.—Lead lotion freely applied several times daily to swollen parts; penis and sheath freely syringed twice daily with peroxide of hydrogen solution. After ten days the patient went home apparently all right, but for another week or so, as a precautionary measure, I repeated the treatment once daily. There has been no relapse.

3.—PICKED-UP NAIL : UNEXPECTED RESULT.

A brown van mare, six years old, picked up a packing-case nail about the docks. The driver removed the nail which he said drew little or no blood. Two days after, as the mare was very lame, she was brought in and put in slings. The wound in the off hind foot was opened freely, and a copious flow of synovia followed, and continued for a fortnight. The mare suffered intense pain, and none of the usual remedies seemed any use in stopping the flow of synovia. The patient was destroyed, and on post-mortem the navicular bone was found fractured.

Query.—How did the mare work practically sound for a day and a half?

4. The next item on the programme was a visit from two cats at a railway station, and another from a collie dog. One of the cats had chylous ascites very badly, and a dose of prussic acid put paid to her account. Post-mortem revealed tuberculosis of nearly all the internal organs. The other cat was a male, of roving disposition; emasculation cured this propensity.

The collie has a large chancre on his penis, which a pair of large scissors quickly accounted for, and a touch of liquor ferri perchlor. completed the treatment. The lady in question wanted to know if copulation next day would hurt the dog, as she had a bitch ready for him. I asked her in the interests of humanity to give him a chance until next time. My assistants in these cases were two parcel clerks and the ladies themselves, and the operation theatre the parcel office.

5. The next case presented no difficulty, and was a chronic enlarged fetlock which only required a few absorbent blisters, applied at intervals of a month or so, and has done well.

6. Next came a bad schirrous cord in a four-year-old farm horse. I had, of course, to employ an anaesthetic, and was prepared for the case. An enormous mass of tissue was removed by blunt dissection from the off side, and the cord ligatured after removal. The mass removed was the usual cylindrical one, about eight inches long and from four inches, tapering down to one, in diameter. A smaller growth was removed from the near side.

I instructed the owner to pull off the ligature, ends of which I left long and hanging from the wound, on the fourth day. He did not do this, as he was afraid to interfere, and brought me in the horse on my next visit to the town, a month after. There was still of course a considerable swelling about the parts, and I had to cast the horse to get the ligature away. In spite of all the neglect, the case was a successful one. The only thing the owner did, was to keep the wounds irrigated with a solution of Hyd. perchlor.

7.—ACTINOMYCOSIS : ABSCESS

A couple of cows next presented themselves; one with wooden tongue, in which case the usual Pot. iod. treatment was adopted—and successfully; and the other with a post-pharyngeal abscess, which I lanced internally and blistered externally. This cow was a bad "snorer," but is now all right.

8.—WARTS.

Next came the most repulsive job of the day, namely, cutting off several large and a multiple number of small sessile warts from an old cart horse. This operation—an annual one, was also done under an anaesthetic, and was of course left till last, owing to the dirty nature of the work. Several pounds of warts were removed from all sorts of situations, but strange to say none of them interfered with the harness, and the resulting wounds were dressed with Ferri perchlor. Owing to the fractiousness of the horse, no after treatment is ever adopted. This fractiousness is not surprising, and I begged the owner to have the poor brute destroyed, but he refused.

(9) Was merely an examination for soundness and possessed no features of interest.

(10) This was a case of opacity of the lens in a hunter colt, said to be due to a stroke from a branch when galloping after the hunt which crossed the field he was grazing in. There had been a good deal of inflammation and running from the eye for a month before I saw it, but on this date it was to all intents and purposes a blind eye, and has remained so since.

I trust, Mr. Chairman and gentlemen, that my "mixed bag" will give rise to a discussion from which we can all learn something. I do not profess to have shown you anything wonderful, nor do we want anything wonderful to discuss at our meetings. We all see cases every day that someone else would perhaps treat differently, and possibly better than we do, and it is only by an interchange of opinions we can learn something from one another.

DISCUSSION.

The PRESIDENT: This has been a very interesting paper, and I am sorry that there is such a small meeting, because the matters Mr. Winter has referred to, would give rise to a very good discussion.

Mr. HOWARD said they ought to be very grateful to Mr. Winter for preparing such an interesting and instructive paper for their meeting. He had referred to a good many little odds and ends that had made his paper most enjoyable, and the members were grateful to him. He (Mr. Howard) in course of his work came across a good many cases of splint lameness, and especially with young horses, that were considerably knocked about while suffering from splint lameness. He had such cases also with hunters, and he would like to say that he believed no one could improve on the treatment that Mr. Winter had adopted in the cases he had told them about. Speaking of such cases in general, it was his experience that the best treatment was not to use the animal while lame. If they did they would find him more lame three weeks afterwards. His own treatment was to lock the animal up and have the concussion removed until he was sound. That was the most effectual treatment that they could have.

The case of Orchitis was dealt with very effectively by Mr. Winter, and he (Mr. Howard) need not pass any remarks with regard to it.

With reference to the horse that picked up the nail, he thought that it was very hard to decide at any time what really happened in these cases. It was absolutely impossible to decide whether the fracture of the navicular bone took place at the same time as the puncture by the nail or whether it came on subsequent to the

injury to the feet. He had a similar case some time ago. The nail was pulled out of the foot and he afterwards went a journey of six miles, and was not affected by it to any noticeable extent. However, on the very next day the animal was very lame. He got treatment, and it turned out satisfactory, in this way—that the horse was working at the present time, but with a very fine ringbone. He believed that the horse fractured the pedal bone several days after the original injury from the nail, and he believed that that was due to the awful soreness that there was in the foot.

The case of the schirrous cord to which Mr. Winter had referred was undoubtedly very favourable, and he would like to know if Mr. Winter's plan was to have a ligature in removing such a growth. It ought to be the proper course, considering the large amount of hæmorrhage in such cases. He (Mr. Howard) saw a horse some time ago, eight years old, but it had been castrated as a yearling, and it had a terrible schirrous cord. It had gone all that time with it. They could not understand it, but the animal was now doing very well.

As to the case of the colt's eye he would like to know how soon after the injury to the eye did Mr. Winter see it, and what was the extent of the injury on the first day; because it was not usual that such a slight injury from the touch of a branch would lead to the loss of the use of the eye. He would also like to know from Mr. Winter and the other members, their opinions, as regards the number of cases of cataract that would have their origin from similar injuries to the eye, and whether such cases had any injury at the start. Personally, he thought the cases of cataract were not the result of injury.

Mr. HEALY said that he would like to ask Mr. Winter what strength of Peroxide of hydrogen, he used in the case of the dog to which he had referred. He (Mr. Healy) did not agree with the last speaker in his remarks on rest for splint lameness. He thought a great deal of lameness was due to small undetected splints in the bone, and it was his practice to give the animal as much work as was possible on soft ground, and treat them with the old treatment, and then to get them at work and send them on the road. He remembered a case of a horse that had won a prize. That day the horse went lame, but he used the old fashioned treatment on him, and that animal had gone sound ever since. There was an old M.F.H., Mr. Fitzgerald, Clanmilt, and his idea was to work such animals on soft ground, and he always got good results.

As regards the case of schirrous cord to which Mr. Winter had referred in his very able paper, he would like to know whether it was extra scrotal, or inter scrotal, when he put on the ligature.

It was his experience of eye wounds that, when the wound was deep it punctured the eye-ball, and that these were serious cases, and would always give trouble, but when the wound was only superficial, there would be no trouble with the treatment of the eye. In conclusion, he wished to say that if they had more papers of the type of Mr. Winter's, they would have better discussions than was the case with long theoretical papers that wanted time to consider.

The PRESIDENT said that he desired to join with the other speakers in thanking Mr. Winter for his interesting paper. He had had a very wide and long experience with splints, and he should say that he agreed with Mr. Howard about rest and also blistering in such cases. When the animals did not give in after two or three blisterings, he used a fine needle, and then blistered again, and he found that that left no mark. He could tell them that such treatment was very effectual. He was very much for rest. What brought on the splints? He thought it was the concussion, and if they kept up the action by setting the animal at work, they were

bound to keep up the irritation. He thought that rest was necessary in the treatment except with heavy draught horses, which should be put to slow work. He found with race-horses, which were very troublesome, that they got sore shins, and that in such cases rest and blistering was the best treatment. When inflammation was in evidence, the white lotion was very good, and in a good many cases that, with rest, would be sufficient. One of his cases was a hunter, and until he applied the needle the animal did not get right. A race-horse which he had under treatment he gave rest for six months, and it regained its action, which it had previously lost.

He would like to know if Mr. Winter ever used iodoform in such cases as that of the dog he had mentioned?

Mr. WINTER: I have only used peroxide.

In the case of the picked up nail, the President thought that the bursa must have been punctured, while, as regards the schirrous cord, he found a good many of these cases in old horses all internal. He had taken them off externally in two-years and three-year-olds. He never had much difficulty in the treatment.

In the eye case that Mr. Winter had mentioned, he would like to know how long it was from time it occurred until Mr. Winter saw it.

Mr. WINTER: Over a month.

The PRESIDENT said that in the case of an external injury to the eye, he used calomel. He was of opinion that where the internal chambers of the eye were destroyed, that they never again were restored.

THE L.G.B. (SCOTLAND) APPOINTMENT.

Mr. HOWARD said that he desired to draw the attention of the Association to the action of the Local Government Board in Scotland, in appointing as veterinary inspector, a man who was not a veterinary surgeon at all. He believed that the Association should take up such a matter.

Mr. WINTER: The various teaching schools have lecturers and examiners who are not veterinary surgeons, and they could get plenty of them. I think we ought to protest against men being appointed teachers and examiners, who are not veterinary surgeons. We have plenty of men in the profession capable of doing such work.

Mr. HOWARD proposed that the Secretary of the National Veterinary Association be asked to bring the matter up for discussion at next meeting of his body, because the Central Veterinary Association (Ireland), were of opinion, that the time had come when the teaching staffs at the various Veterinary Colleges should be recruited from the veterinary profession.

Mr. HEALY: In Continental schools they have no one but veterinary surgeons.

The motion of Mr. Howard was agreed to.

The PRESIDENT said that though their meeting was a small one, they had done an amount of work. (Hear, hear).

The proceedings then concluded with a vote of thanks to the President.

YORKSHIRE AND NORTH MIDLAND VETERINARY ASSOCIATIONS.

A meeting took place in the Town Hall, Sheffield, on Friday, July 18.

The LORD MAYOR (Ald. S. Osborn) in extending an official welcome to the members of the two Associations and their ladies commented on the fact that the Yorkshire Association was apparently celebrating its jubilee by a matrimonial alliance with the North Midland Association, which, he said, was an admirable if somewhat

belated event. The statement that the founder of the Yorkshire Association was the person to whom the song of the "Village Blacksmith" was dedicated, suggested that the profession of veterinary surgeon was evolved from the farrier of past days. If this was so, they had a very healthy origin—an origin which suggested high ideals and honest work well done. Medical science was perhaps one of the greatest features of the day, and it was an interesting fact that medical science as applied to human beings and animals seemed to be coming into contact. So far as tropical diseases were concerned it seemed rather difficult to decide whether the veterinary surgeon was becoming a medical practitioner or the medical practitioner a veterinary surgeon, but it was very obvious that in the interests of national health there would have to be greater knowledge in both these branches of medical science, the health of the people being so much tied up with the health of animal life.

There were present: Messrs. Joseph Abson, President, Yorkshire V.M.S., and Mrs. Abson; Frank L. Somerset, President, North Midland V.A., and Mrs. Somerset; Dr. O. Charnock Bradley, J. Clarkson, J. S. Lloyd, Mrs. Lloyd, and Miss Katie Lloyd; Philip Deighton, W. Crawford and Mrs. Crawford; S. Wharam, Frank Halliday, Geo. Whitehead, J. Hodgman, C. S. Smith and Mrs. Smith; G. E. Bowman and Miss Bowman; Arthur Ellison and Mrs. Ellison; M. Robinson, A. McCarmick, Herbert Nixon and Mrs. Nixon; Bruce Selous, J. S. Woodrow and Mrs. Woodrow; H. P. Lewis, R. Hudson and Mrs. Hudson; H. R. Laycock, C. S. Hunting, P. Abson and Mrs. Abson; A. D. Morgan and Mrs. Morgan; J. H. Yates and Mrs. Yates; T. C. Fletcher and Miss Fletcher; S. E. Sampson and Mrs. Sampson; Miss May Lodge, J. H. Gillespie and Mrs. Gillespie; Miss Alice Lever, S. H. Nixon and Mrs. Nixon; E. G. Johnson and Mrs. Johnson; H. Thompson and Mrs. Thompson; F. W. Pawlett, W. Collinson, T. Ludlow, G. Green and Mrs. Green; and G. Howe and Mrs. Howe.

"THE PRESENT DAY VETERINARY SURGEON AND HIS SUCCESSOR."

Dr. O. CHARNOCK BRADLEY, M.D., D.Sc., M.R.C.V.S.,
Edinburgh.

In his address Dr. Bradley said that to understand adequately what was the position of the profession in 1913, it was necessary to ask: What had been the past of the profession? That the veterinary surgeon originated from the farrier, that was to say from the blacksmith, was in essence, absolutely true, but the farrier was not the only predecessor of the modern veterinary surgeon, for in 1844, when the first Charter was granted, and when the profession became one of the learned professions, it was a matter of very considerable debate in veterinary circles as to whether the alleged veterinary surgeon prior to 1844 was quite the sort of person out of which a profession would evolve. It was, in fact, stated that the veterinary surgeon previous to 1844, and, indeed, for some little time after that date, was very little more than a groom, a hanger-on in stables, and often a more or less undesirable person from the point of view of a learned profession.

He mentioned this because if they contrasted the position of the profession sixty years ago with the position to-day, they could not be otherwise than perfectly satisfied with the progress that had been made. It was a matter of congratulation that in so phenomenally short a time the profession should have become what it had.

Respecting the nature of that progress, it had been said that sixty years ago the profession had more practical men than it had to-day—that the young practi-

tioner of to-day was far too scientific and not sufficiently practical. His reply was that in his opinion scientific knowledge without practical application was useless. The really practical man, and the man who counted, was the man who was capable of dealing with emergencies, and was not tied to familiar phenomena. Further, it was very often the case that the old practical man was famed for his lightning diagnosis, but he thought that one of the facts upon which the veterinary surgeon of to-day could pride himself was that lightning diagnosis had become less common—that more thorough examination was made before the diagnosis was arrived at—and that he had shaken off some of the shackles of the popular tradition that he must know everything, and that he must know it all at once.

The profession was at last coming into its kingdom. Veterinary science was at last becoming recognised as it ought to be. It was taking its own place in line with medical science.

The future veterinary surgeon would attain the kingdom through many channels. It was realised now that a veterinary surgeon could not be "produced" in a short time at a veterinary college. All that could be done in the way of education was to prepare him to teach himself, and he (Dr. Bradley) ventured to hope that the future veterinary student would do more with his fingers than in the past.

There was no question whatever that the young veterinary surgeon had to prepare himself for preventive as well as curative medicine. The duty of the surgeon of the future would be rather to prevent diseases, and not so much, perhaps, to cure them. This prevention would come about, he believed, partly through eugenics—by paying attention to the ancestry of animals and preventing the production of young from unsound parents. Through eugenics, veterinary science would be of greater and greater importance to agriculture in its widest sense. There was a distinct feeling among agriculturists to-day that good stock paid—that pedigree stock, all other things being equal, was better than ordinary mongrel stock.

Another direction in which progress could be made was in the greater utilisation of instruments of precision. There was no reason why such instruments as the ophthalmoscope and the laryngoscope should not be used practically every day. The plea of their being no time to use them might be advanced, but it would be recalled that the same plea was advanced about the use of the microscope.

A further direction along which progress would be made was indicated in the words "extension of Empire." Empire, or civilisation, would never advance without some assistance from some source of veterinary science. Civilisation was impossible without animals, and animals were impossible unless they could be kept in health in unusual and almost abnormal conditions. In this connection he instanced the development of South Africa. The prospects of the future were, therefore, of the best, despite the assumption of the man in the street that the profession was no longer necessary because of motor traction.

"In spite of all the statements that the layman has made, I think we may rest quite assured that the motor car has not done a material, or a lasting, damage to the profession as a whole, and that the prospects are as good to-day as every they were—indeed, one might almost say better, for the reason that the outlet for activity is greater to-day than ever it was, and for the reason, furthermore, that there is distinct evidence that advance in veterinary science will be greater in the future than in the past; and it will not only be greater, but it will be more rapid." (Applause).

Dr. Bradley was heartily thanked for his address, on the proposition of Mr. J. Clarkson, M.R.C.V.S., of Leeds,

secretary of the Yorkshire Association, seconded by Mr. J. S. Lloyd, F.R.C.V.S., of Sheffield, secretary of the North Midland Association.

Following Dr. O. Charnock Bradley's address, short business meetings were held.

At that of the North Midland Association, Mr. Somerset, the President, was in the chair.

Apologies for inability to be present were received from Messrs. J. S. Wheatcroft, W. Brown, W. Bowett, E. Marrison, W. Murgatroyd, and W. W. Norwood.

A letter was read from Mr. F. W. Garnett, Treasurer of the International Veterinary Congress to be held in London next year, soliciting subscriptions towards the Congress Fund, and stated that several hundred pounds were still required.

Mr. T. LUDLOW, M.R.C.V.S., was unanimously elected a member of the Association.

Mr. CLATER WILKINSON was nominated by the Secretary on behalf of Mr. W. Brown, seconded by Mr. T. C. Fletcher.

The SECRETARY read the report of the Council meeting held on the 2nd ult., recommending that accounts to the amount of £6 15s. be paid, and said that a letter had been received from Mr. A. Noel Pillers, F.R.C.V.S., asking the new Association to affiliate to the Northern Branch of the National Veterinary Medical Association.

Pending some further enquiries to be made to the Secretary from Mr. Pillers, it was recommended that the matter be deferred for further consideration at the next quarterly meeting in October.

On the motion of Mr. Fletcher, seconded by Mr. Johnson, the report of Council was adopted.

After lunch at the Grand Hotel, where the members of the party were the guests of Mr. J. Abson, Sheffield, President of the Yorkshire Veterinary Medical Society and Mr. F. L. Somerset, F.R.C.V.S., of Chesterfield, President of the North Midland Association, forty-nine of the party were taken by motor charabanc to Buxton, tea being partaken at the Empire Hotel, a photograph of the party being also taken. Visitors leaving Sheffield by train were sent forward in an advanced motor charabanc so as to enable them to catch the train leaving Sheffield shortly after 8 p.m. The remainder of the party arrived at Sheffield at 9 p.m. punctually, after thoroughly enjoying the scenery of the Derbyshire Peak.

Through the kindness of Messrs. Hunter, photographers, Buxton, I also enclose proof of photograph for reproduction.

J. S. LLOYD, Secretary.

THE NATIONAL ASSOCIATION OF VETERINARY INSPECTORS.

The first annual General Meeting of the Association was held in the Caledonian Room of the Holborn Restaurant on Monday, July 28th, Mr. J. Abson (President) in the chair.

Present: Messrs. D. G. Davies, Swansea; D. Pugh, Sevenoaks; Wm. Hill, Dunstable; W. Stanley Carless, Worcester; H. Hide, Edmonton; F. Morton Wallis, Halstead; J. Bishop Young, Braintree; W. R. Williams, Bridgend; A. S. Adams, Dursley, Glos.; R. Bryden, London; W. S. Mulvey, Chelmsford; C. Blackhurst, Broughton, Preston; F. T. Prince, Ashbourne; T. Eaton Jones, Liverpool; John S. S. Woodrow, Swinefleet; H. H. Truman, March; Percy S. Howard, Wanstead; W. D. Halfhead, Ongar; R. Jones, Towyn; J. Hughes, Llanfair; C. Secker Smith, Barnsley; Edwin Armstrong, Newport, Mon.; E. H. Pratt, Northallerton; E. W. Morris, Uckfield, Sussex; W. Caudwell, Chertsey; James D. Rankin, Colne; Geo. P. Male, Reading;

Richard Hughes, Oswestry, Salop; Fredk. Leeds Gooch, Stamford, Lincs.; Alfred Over, Rugby; Geo. A. Banham, Cambridge; John Cameron, Berwick-on-Tweed; Geo. Wartnaby, Burton-on-Trent; Hugh Begg, Hamilton, Lanark; W. R. Emery, Guildford; Robert Barron, Blandford, Dorset; Fredk. T. Trewin, Watford; Henry G. Lepper, Aylesbury; Geo. Elmes, St. Albans; Geo. F. Vincent, Sutton, Surrey; John F. Healy (visitor); P. J. Mullane (visitor); R. MacGregor, Market Harborough; J. G. Parr, Leicester; C. Pitts, Bradford; J. Pollard, Halifax; Percy J. Simpson, Maidenhead; Sidney Villar, Amersham; C. F. Hulford, Haslemere; J. H. Carter, Burnley; C. E. King, Abingdon; W. W. Grasby, Daventry; E. Lyne Dixon, Margate; James Crowhurst, Canterbury; John Dunstan, Liskeard; Theodore C. Toope, Dover; J. W. Brittlebank, Manchester; Trevor Spencer, Kettering; G. H. Locke, Manchester; J. C. Coleman, Swindon; William Hackett, Donington, Spalding; F. T. Harvey, St. Columb.

Apologies for absence were announced from Messrs. T. J. Simpson, L. W. Heelis, R. S. Pethick, Prof. Gofton, Geo. Jelbart, R. L. Phillips, J. MacKerlie, G. Edmundson, A. H. Gentle, J. J. Crowhurst, Geo. Gibbings, John Brown, J. R. Dykes, Chas. Morgan, J. McKinna, T. Slipper, W. J. Young, W. E. S. Richmond, A. W. Noel Pillers, Kenneth Rankin, W. C. Watts, Peter Wilson, A. R. Routledge, W. G. Senior, W. C. Barling, D. Forwell, John Malcolm, Arthur Holl, J. Marshall, H. O. Richard, A. Green, R. L. Green, J. P. Railton, W. Blunsom, T. E. Auger, J. K. Calderhead, G. L. Harber, W. G. Wagstaffe, J. Clarkson, Geo. Howe, T. Ludlow, Fred Watchorn, J. W. Pritchard, T. Chambers, A. B. Forsyth, H. J. Dawes, W. J. Powell, W. Roach, James East, Fletcher, and others.

The HON. SEC. (Mr. Trevor F. Spencer) read the notice convening the meeting; and on the motion of Mr. Banham, seconded by Mr. Toope, the minutes of the last special general meeting were taken as read and confirmed.

The following gentlemen were nominated as new members:—Messrs. P. Gregory, Tonbridge; E. R. Harding, Salisbury; T. Chambers, Dudley; W. J. Powell, Newport Pagnell; T. J. Simpson, Ruthin; J. H. Truman, March; R. Jones, Towyn; James Rankin, Colne; J. S. S. Woodrow, Swinefleet; H. K. Roberts, Bexley Heath; E. Franklin, Worcester; H. B. Hiles, Worcester; A. G. Elder, Tewkesbury; R. K. Rutherford, Bromsgrove; J. M. White, Tenbury; J. A. McLauchlan, Astley, Stourport.

On the motion of Mr. T. F. Spencer, seconded by Mr. Toope, these gentlemen were elected members of the Association.

The PRESIDENT said he desired to draw the members attention to the rules. The Council had gone very carefully into the matter of drawing up suitable rules. They had been guided in a large measure by the National rules. If it was the members' wish that the rules should be read *seriatim*, the Council was quite willing to fall in with that suggestion, but taking into account the fact that the Council had had the rules under their consideration for a long time, he thought he might ask them to take his word for it that the rules were applicable to the Society.

Mr. LEPPER said he thought the members ought to know the rules by which they were bound, and he proposed that the rules should be sent round to all members.

The PRESIDENT said he would call upon the Hon. Secretary to read the rules *seriatim*.

The HON. SEC. read the first six rules.

The PRESIDENT said with regard to rule 6, the Council had had applications from registered practitioners, and he desired to put it to the members whether they thought it desirable to admit registered practitioners to the Association. The Council had discussed the matter,

and had come to the conclusion that it would not be policy, and against the rules as they stood, to admit existing practitioners as members of the Association. He would like to hear the views of the members on the point.

Mr. HUGHES asked if it had been ascertained whether many other existing practitioners were acting as inspectors under the Contagious Diseases of Animals Act.

The PRESIDENT replied there was quite a number. He was going to take the sense of the meeting on the point, because it was rather a crucial one.

Mr. HUGHES enquired whether the matter was restricted to those who were already acting as inspectors.

The PRESIDENT replied it did not matter whether they had already acted or whether they were going to act.

The matter as to the inclusion of existing practitioners into the Association was then put to the meeting, and resulted in favour of such gentlemen not being included.

The SECRETARY then concluded reading the rules.

The PRESIDENT pointed out that the rules would be binding until twelve months hence, when at the next annual meeting it would be incumbent upon anyone who desired to see any alteration made to send a notice into the Secretary 21 days before the annual meeting, and then any rules that were not to the liking of the members could be amended. Mr. Spencer reminded him that the rules could be altered before they were passed on the present occasion, and if any gentleman had any observations to make he would be quite willing to hear him.

Mr. J. CAMERON said he took exception to the rule which said that no other business could be taken at an adjourned meeting except what was left over from the first meeting. It might be that three months would elapse between the two meetings, and something else might have occurred in the meantime. If there was sufficient notice given, why could not that fresh matter be taken at the adjourned meeting?

The PRESIDENT pointed out that there was nothing whatever to prevent the members holding another meeting. It was only a question of notice, and it could be held at the same time as the adjourned meeting.

Mr. MALE moved that rule 11 should be altered to read: "Any member whose subscription is two years in arrear shall be struck off the list of members after having been notified by the Secretary."

Mr. W. S. MULVEY seconded the motion.

Mr. TRUMAN proposed as an amendment that the rule should stand as formulated.

Mr. CROWHURST seconded the amendment, which was put and carried.

The amendment was then put as the substantive motion, and carried.

On the motion of Mr. Lepper, seconded by Mr. Secker Smith, it was agreed that the rules should stand as read.

PRESIDENTIAL ADDRESS.

J. ABSON, F.R.C.V.S., Sheffield.

Gentlemen,—When in a weak moment I accepted the position of your President during the formation of this Association and subsequently when it was formed, I overlooked entirely that a Presidential address at this time would be required of me. I frankly admit here and now that at speaking and writing I have been a miserable failure all my life, and I frequently wonder what on earth I am doing in my present position—why I should occupy it at all to the exclusion of others so admirably fitted to hold it. I, therefore, having admitted my shortcomings claim your indulgence and your support during my year of office.

The Tuberculosis Order has now been with us three months, the ice has been broken, the ship liberated and allowed to get under way. I think the breaking of the ice has been, perhaps, the most difficult. At the outset of the Order we were threatened to be engulfed, so numerous were the cases reported, but that contingency would appear to have disappeared so far as my experience goes. During the short existence of the Order the major portion of the piners have doubtless already disappeared, whilst the fact that many animals affected with tuberculosis, and which would have probably been showing marked evidence of the disease have got a new lease of life for the time being, consequent upon their living an out-door life.

So far as I can ascertain, and speaking generally, I believe the Order has worked comparatively smoothly. A knowledge of one's cases, combined with tact and judgment, is responsible for this. There have been, and necessarily will be, cases off the beaten track occurring from time to time in which we may find considerable difficulty in arriving at a proper solution.

I have frequently been told that the tuberculin test is being much abused by some. If this is true it is greatly to be regretted. It is not according to the circular letter from the Board dealing with the Order, nor to our practical promise to Sir Stewart Stockman. You will notice I used the word "Abuse," none of us will deny that it is sometimes necessary, but my own experience tells me that to carry out the provisions of the present Order it is *rarely necessary* to use the test; I am, however, open to correction.

Perhaps one of the most difficult problems besetting the Inspector is where a local authority having the milk clauses, such as many of the large towns possess, finds tuberculosis bacilli in a mixed sample of milk from a farm or dairy of another local authority. Formerly the veterinary inspector of the first-named authority had to discover the culprit giving the affected milk, and doubtless those towns which have whole time officers will continue as before. But there are many authorities who, up to now, have not had a veterinary officer for this purpose, and many of such will avail themselves of the opportunities presented by the Tuberculosis Order to have the sources of their external supplies inspected without cost to themselves. Thus the Sanitary Authorities having ascertained that the milk from a certain farm had been found to cause tuberculosis would notify the authority in whose district the infecting farm is situated. They, the latter, would notify their local veterinary inspector, and it would be his duty to find out the actual cow or cows responsible for the infection. Now, often, this is by no means an easy task and may result in several visits having to be paid, and a great deal of time spent on the case before a satisfactory solution is arrived at. First, the whole of the cows must be carefully and thoroughly gone over. Any with the least suspicion of udder trouble must be marked down and different samples of milk taken and examined microscopically. A control sample of the unsuspected animals will help you in this. A process of gradually weeding out will have to go on until you get the right animal or animals. In such cases as these the biological test may frequently become necessary where the udder lesions are not marked, and the microscopic test unsatisfactory.

There appears to have been considerable trouble with the dual valuations in some districts. It did appear at the outset a somewhat anomalous instruction. But on carefully thinking the matter over, the Order on the point is quite sound and feasible. The Order is not a philanthropic Order, it is an Order destined to do away with clinically affected animals that are wasting from tuberculosis, and animals giving tuberculous milk—both of which forms of the disease are a danger to the community as well as to the owner himself. It is

without doubt an advantage to the owner to rid himself of an animal that is capable of disseminating the disease among others of his stock. I think to this end he should lend his whole-hearted support to the working of the Order. Does he, speaking generally, do so? I fear not. He rather views the Order as irksome, and as interfering with the liberty of the subject, losing sight of the chief reasons which caused the framing of the Order. Personally, I think it only right to be fairly liberal in the case where an animal to be slaughtered bids fair to be passed for food. But in the case of an emaciated tuberculous carcass, in which the hide only is of any value, the minimum of 30s. is just and equitable. It is clear that the Order does not desire the owner to lose either directly or indirectly, and consequently when a cow is properly valued, he is covered even in the event of mistaken diagnosis by the veterinary inspector.

Many Inspectors appear to have some difficulty with the microscopic examination of milk. Well, the tuberculous bacilli are not always easily found, and where they are few and elusive I confess one's patience may be sorely tried and the fee be more than earned—indeed where a succession of slides have to be prepared and examined it is quite possible several hours may be taken up. I hope, however, by this time that practice has made everyone proficient, and that none of the members find it necessary to send more milk samples than they can help to bacteriologists for microscopic examination.

And now a few words about fees. It has been admitted by many local authorities that the fees proposed by this Association are fair and reasonable for the duties required. As to the justness of the fees we stand as one man. There are some inspectors being paid a fee in excess of those prescribed by the Association. Against that we have no complaint, in fact we congratulate them. But we have a *bona fide* grievance against quite a number of local authorities who are underpaying their Inspectors, who have fought tooth and nail for the reduction of the fees—and I regret to say, in some cases, have succeeded—belittling the profession and their duties under the Order and diverting some of those duties into other channels, thereby setting the Order at defiance. In several cases threats have been used to employ all-time men.

In one district the handsome fee of 5s. for the first hour and 2s. 6d. for every hour afterwards was being paid. In these cases, I think, this Association should act, providing it is the wish of the inspectors concerned and provided always they belong to this Association.

DISEASES OF ANIMALS ACT, 1894 TO 1911

Return showing the number of Premises on which the existence of TUBERCULOSIS has been notified to the Board of Agriculture and Fisheries during the month of July, 1913.

ENGLAND (Counties) *		ENGLAND (continued) *	
Bedford (Premises)	6 6	Sussex, East	2 2
Berks	6 7	West	3 3
Buckingham	2 2	Wiltshire	16 16
Cambridge	3 3	Worcester	6 9
Isle of Ely	3 3	York, East R.	3 3
Chester	44 46	" North R.	10 10
Cornwall	14 14	" West R.	36 37
Cumberland	7 8	WALES.	
Derby	24 24	Anglesey	6 7
Devon	18 21	Carnarvon	1 1
Dorset	2 2	Denbigh	2 2
Durham	15 18	Flint	8 11
Essex	7 9	Glamorgan	1 1
Gloucester	6 6	SCOTLAND.	
Hants	2 2	Argyll	1 1
Hereford	2 6	Ayr	9 10
Hertford	6 7	Caithness	1 1
Huntingdon	2 2	Dumbarton	1 1
Kent	12 13	Dumfries	7 7
Lancaster	51 54	Forfar	10 10
Lincoln, Holland	1 2	Haddington	3 4
Kesteven	6 6	Kinross	1 1
Lindsey	11 11	Kirkcudbright	4 4
London	6 6	Lanark	6 6
Middlesex	3 3	Midlothian	
Monmouth	1 1	(ex City of Edin.):	2 3
Norfolk	5 5	Orkney	3 3
Northampton	5 5	Ross and Cromarty	2 2
Northumberland	6 6	Roxburgh	4 4
Notts	14 15	Selkirk	2 2
Rutland	2 2	Stirling	3 3
Salop	11 12	Sutherland	1 1
Somerset	14 15		
Stafford	10 10		
Suffolk	5 5		
Surrey	7 7		
		TOTAL	493 529

* Number of bovine animals suffering from tuberculosis of the udder, tuberculosis with emaciation, or giving tuberculous milk, in respect of which notice of intention to slaughter has been received.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders † (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered. *
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
Gr. BRITAIN.													
Week ended Aug. 2	6		6				6	6	23	27		58	1001
Corresponding week in	1912	8	10		5	63	4	7	36	47	1	44	605
	1911	11	12				4	4			2	46	466
	1910		21		1	1	6	12			3	26	225
Total for 31 weeks, 1913	351		284				106	283	1817	3705	124	1532	20720
Corresponding period in	1912	537	611		60	384	110	216	2269	4954	166	2071	26596
	1911	526	654		7	420	118	295			306	1614	18701
	1910		1099		2	15	217	661			329	910	8239

† Counties affected, animals attacked: London 3, Warwick 1, York, West Riding 2.

Board of Agriculture and Fisheries, Aug. 5, 1913.

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

The Ductless Glands

It has long been known in medical science that the human and lower animal organism have within them a considerable number of bodies known as glands, and that these glands manufacture and store up some special fluid according to their kind, and we have, in many cases, thought we had found out all there was to be known about them. However, within the past year or two a considerable amount of information has been forthcoming in reference to the physiological effects of the secretions of certain of the glands, such as the thyroid in the neck and the adrenal glands on the kidneys. The example which I am about to relate shows conclusively that the presence of the ovaries exerts a mysterious physiological influence, for, when removed, the most astounding pathological effects were manifested.

In April three years ago at a caponizing demonstration at Graaff-Reinet, at which there were over forty farmers and townsmen present, Veterinary Surgeon Elley removed the ovaries from three hen ostriches. The hens were each four years of age at the time. Shortly after the operation the three hens began to assume the black body plumage of the adult cock bird, and, from the characteristic drab colour of the feathers of a female, these feathers turned jet black and glossy as in the male. The wing and tail feathers also changed, and became so like those of the cock bird that feather experts to whom they were shown declared them to be the typical feathers of a cock ostrich.

These hen ostriches belong to Mr. W. Rubidge, a well-known Graaff-Reinet farmer, and he kindly consented to have one of them chloroformed and presented to the Port Elizabeth Museum for exhibition. The bird was sent to us in the flesh, and I had the satisfaction of making a personal examination to make quite sure it was a female.—(Mr. F. W. FITZSIMONS, Director of the Port Elizabeth Museum, in *Agricultural Journal of the Union of South Africa*).

Prosecution by the R.C.V.S.

Herbert Alfred Glover, a young man, of Mayes Place, Croydon Road, Warlingham, was summoned at the instance of the Royal College of Veterinary Surgeons, for unlawfully using the description of "Member of the Royal College of Veterinary Surgeons," on June 2nd. Mr. G. R. Thatcher (Essex Street, Strand, London) appeared for the prosecution, and Mr. Percy Holt (Purley) for the defendant, who pleaded guilty.

Mr. Thatcher said the case was a very serious one indeed, and he would ask the Bench to impose at least the full penalty, which was £20. The defendant gave evidence in that Court on June 2nd. He took the oath, and in reply to the Clerk, said he was a veterinary surgeon, and was a member of the Royal College. He then gave evidence, as an expert, in a case as to the condition of a horse, as to which there had been a prosecution for cruelty. He was cross-examined by Inspector Fleming, of the R.S.P.C.A., and again said he was a qualified veterinary surgeon. He (Mr. Thatcher) could scarcely imagine a more serious case. It was most important that in all courts of justice the evidence of expert witnesses should be given by experts, and not by men who said they were. Otherwise the ends of justice would very likely be defeated. Defendant should consider himself most lucky that he was not in the box on a charge of perjury.

Inspector Percy Fleming, of Kenley, gave evidence as to two Whyteleafe men being charged with cruelty to a

horse on June 2nd, when the defendant gave evidence for the defence, and swore that he was a veterinary surgeon and a member of the Royal College. He attended the horse professionally, and gave evidence as an expert, and in cross-examination by witness again said he was a qualified veterinary surgeon. Witness saw the defendant about a week later, when he again said he was a veterinary surgeon, and that his name would be registered at Dick's College, Glasgow. Witness produced the Register of the Royal College, in which the defendant's name was not included.

Mr. Holt, addressing the Court for the defendant, said he had been very ill, and he came to the Court on June 2nd against the doctor's orders, and was very anxious to get away. He understood that the Inspector's question was put to him just as he was leaving the witness-box, when he felt very unwell, and he answered in the affirmative. He (Mr. Holt) could not help thinking that defendant did not think what he was doing, as he, of all persons, must have known that it was quite simple for anyone to find out whether he was a member of the Royal College or not. He had been a student of the College for four years, and passed the preliminary examination.

Mr. Thatcher pointed out that that did not make him a member.

Mr. Holt pleaded for leniency, remarking that he did not think the defendant had any intention of deceiving the Court, but did it without thinking, not feeling well at the time, and being anxious to get away.

The Bench retired, and on returning, Mr. Lloyd (who had taken the chair, Mr. Daniell having left before this case was heard) said they looked upon this as a very serious case. There was no excuse at all for the defendant's conduct. He would be fined £10, and £3 3s. the College costs, and 9s. 6d. the Court costs.

On the application of Mr. Holt, a week was allowed for payment, the total fine and costs being £13 12s. 6d.—*The Surrey Mirror*.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, Aug. 1.

SPECIAL RESERVE OF OFFICERS.

ARMY VETERINARY CORPS.

Lieut. R. C. Wheeler is seconded for service under the Colonial Office. Dated July 17.

R. F. Stirling, F.R.C.V.S., late Lieut., A.V.C., to be Lieut., with seniority as from Oct. 2, 1911. Dated Aug. 2.

August 5.

REGULAR FORCES. ARMY VETERINARY CORPS.

Capt. J. W. Rainey retires, receiving a gratuity. Dated Aug. 6.

Personal.

Mr. WM. MARSHALL, M.R.C.V.S., Aberdeen, judged the Roadster Class at the Northern Counties Joint Show at Inverness on Friday, 25th ult.

Mr. A. B. TULLY, M.R.C.V.S., Kelso, was one of the judges of the Hunters at the 81st Annual Exhibition of the Cumberland Agricultural, at Carlisle, on Saturday, 36th ult.

Mr. A. SETON MILNE, M.R.C.V.S., has just been engaged by the Municipality of the City of Georgetown, British Guiana, South America, at a salary of £400 per annum.

OBITUARY

WILLIAM ANDERSON, M.R.C.V.S., Langholm.
Graduated, Edin: April, 1863.

Mr. Anderson died at Moffat on Aug. 4th, from senile decay. Aged 72 years.

ANDREW JOHNSTONE MCINTOSH, M.R.C.V.S., Dumfries.
Edin: April, 1862.

Death took place on Aug. 5th, from cerebral hæmorrhage, at the age of 73 years.

THE LATE SIR RICHARD POWELL COOPER.

A correspondent writes to *The Times* :—

"It seems to have escaped notice generally that the late Sir Richard Powell Cooper was by profession a veterinary surgeon. He studied at the Royal Veterinary College, Camden Town, took the diploma of M.R.C.V.S. (Lond.) in 1868, and subsequently was in practice at Lichfield. He was the nephew of Mr. William Cooper, M.R.C.V.S., who found a remedy for scab which, under the name of Cooper's Dip, has ever since been extensively used in all sheep-rearing countries, especially in South Africa, Australasia, and the Argentine. The business eventually came to Sir Richard Powell Cooper and another nephew, and is now known as William Cooper and Nephews. Sir Richard's experience as a veterinary surgeon was undoubtedly of great service to him as a stock-breeder. He continued to take an interest in the profession, and a year or two ago was in a deputation, with Sir John McFadyen and other gentlemen, to Mr. Runciman with a view to obtaining a more liberal State grant for veterinary education and research. He had also promised a substantial sum towards the expenses of the International Veterinary Congress, which is to be held in London in September of next year."

CORRESPONDENCE.

VETERINARY SURGEONS—AND THE FUTURE.

Sir,

Reading *The Veterinary Record* on Saturday last I noticed that, at the annual dinner of the National Veterinary Medical Association, Mr. Carter, President of the R.C.V.S., said :—"In spite of the advent of motor traction there were in Great Britain 1,500,000 horses, etc., etc., in 1911, and that 'those figures showed that there was plenty of work for veterinary surgeons, and he thought there never was a brighter prospect for the profession than there was at the present time.'"

Dr. Bradley made somewhat similar remarks at the combined Yorkshire and North Midland meeting in Sheffield. First let us investigate Mr. Carter's remarks about the number of horses, and here state that he is quite wrong in his estimate; he is wrong to the tune of 127,393, and his error is quite in his favour, because he can add this number to the one he quoted, then in spite of this increase to his quoted figures there is a decrease of 4.2 per cent., also the foal crops decreased by 13.5 per cent., or a loss of 19,000 foals, as compared with the maximum year 1905.

Further, his figures only concern horses on the farms of Great Britain, horses in towns or not kept on agricultural holdings, are not included. Now, will he tell us how the demand for horses has been affected in towns, where motor traction has been substituted, then we shall be able better to understand the meaning of his figures, or, better still,

get the opinion of members of the profession whose living is earned in town areas, then I think his "tidings of joy and great expectations" will receive a rude shock. There is no doubt that thousands of horses have, or in the immediate future, will be displaced by motors, and I have it on the authority of one whose business it is to work things out to a farthing, that for heavy and long journeys there is no comparison, the cost being in favour of motors, and these will, no doubt, become cheaper to purchase, easier to run, and less costly as a means of transport as time advances and brings them to greater perfection.

Dr. Bradley, no doubt basking in the "roseate hues," reflected from the knowledge of his secured position, tells the same tale. He advances the view that more municipal work will come into the hands of the veterinary surgeon of the future. But I would ask, Will preventive medicine increase the annual income of the general practitioner? Supposing for the moment that one veterinary surgeon is employed entirely, that is to devote his whole time to his duties in every town of, say, forty thousand inhabitants, will it increase or tend to decrease the combined earnings of the whole. Certainly it won't, and for this reason, that those specially engaged will act not in curing disease, but to prevent it, consequently there will be less to treat for the general practitioner. I may here say that I am not looking at the matter from a personal point of view, but let us have facts not "terminological inexactitudes."

Then there are other considerations—quacks, unqualified assistants, etc., etc., and with regret and resentful feelings we may add that these have evolved in many cases from grooms who have acted in that capacity for veterinary surgeons who have relegated to them work that they themselves should have undertaken—especially dispensing, and it is no unknown thing to become aware, through an advertisement, that So-and-so, late with So-and-so, M.R.C.V.S., is selling medicine as per his late employer's recipes.

Then there is the veterinary surgeon who will work practically for nothing to keep another man out, and in not a few cases of this sort the individual who resorts to these tactics is a successful member of the profession. Will this enhance the value of one's services? or will it make those services more in demand or appreciated when given under these conditions?

Finally, we have to remember that as the demand for town horses declines in this country, so it will naturally follow in others. Therefore, if in face of these obvious indications these gentlemen can see the bright future they so confidently prognosticated, the only conclusion I can arrive at, personally, is, that I envy them their optimistic frame of mind when based upon such debatable promises.—Yours truly,
W. BROWN.
Workshop.

MULE WITH FOAL.

Sir,

The article by Mr. Harvey on a mare mule with foal in your last issue reminds me that in 1885, at the close of the Bechuanaland Expedition, I travelled from Kimberley by mule wagon to Hopetown, which was then as far as the railway from Capetown had reached. Some time after we arrived at Hopetown, as I was passing through the station yard I saw a mare mule lying on the ground beside the placental covering enclosing a foal, evidently recently born. I believe that this mule, which would be 13½ hands high, was the same animal that got exhausted half-way on the road, when the driver burnt some rags under her nose so that she would inhale the smoke, and revive sufficiently to continue the journey.—Yours faithfully,

ALEX. H. GENTLE.

Otley, Aug. 1.

Original articles and reports should be written on one side of the paper only and authenticated by the names and addresses of writers, not necessarily for publication.

Communications for the Editor to be addressed 20 Fulham Road, London, S.W.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1310.

AUGUST 10, 1913

VOL. XXVI.

PROF. HARVEY CUSHING ON THE VETERINARY PROFESSION.

On the whole, the International Medical Congress just held in London has done credit to a great profession. But it is regrettable that one of its most prominent speakers should have chosen to cast an undeserved slur upon another profession, of the work of which he knew nothing. We refer to Prof. Harvey Cushing, whose references to veterinary development were typical of the attitude which those medical men who know least about us and our work often assume towards us.

Our correspondence column contains a letter from Mr. Wallis Hoare, which well shows how the learned Professor unconsciously revealed his own ignorance of a science whose practitioners he presumed to criticise; and we reprint also a vigorous protest from Sir John M'Fadyean, which appeared in *The Times*. Further comment seems unnecessary. Prof. Harvey Cushing's acquaintance with all things veterinary is evidently so limited that we cannot hope that Mr. Hoare's letter in these pages will be favoured by his perusal. But Sir John M'Fadyean's communication to *The Times* can scarcely escape his attention; and we trust that it may enlighten him.

SIR R. P. COOPER.

It is curious that, of all the obituary notices of the late Sir Richard Cooper that we have seen, not one pointed out that he was a Member of the R.C.V.S., and had once practised the profession. Had not *The Times* been good enough to insert a note from a correspondent drawing attention to this, the fact might have remained unrecorded in the public Press. Yet there can be no doubt that the late baronet's veterinary training and early professional experience contributed not a little to his subsequent success as a stockbreeder. Natural gifts of a high order he must have had—gifts of observation, of organisation, and of business acumen—but these might not have been of much avail if the hobbies which he invariably rendered profitable had been taken up with an amateur's knowledge only. His initial professional training, and the practical experience of animals and of farm life and affairs gained in veterinary work, furnished him with a solid groundwork of knowledge with which to commence his many agricultural enterprises. This is too self-evident to require emphasis, and it is very strange that a series of fairly full obituaries of so well-known a man should contain no references to his membership of a profession which certainly did much to equip him for his main life-work, and in which he retained an interest to the end. Apparently the old tendency to push the veterinary profession, and all that pertains to it, into the background has not yet died away.

UNSUSPECTED TUBERCULOSIS.

During a casual conversation with a few professional friends, "Tuberculosis"—and the rapidity with which this disease sometimes runs its course—came up for discussion. It was due to the fact that on a previous occasion I had stated that in some cases, a really fine and healthy looking animal could, and did die in a fortnight from this disease, and I was asked for corroborative evidence; consequently I looked up two cases which had conclusively proved this to me.

The cases both occurred on one farm, they were sisters; deep milkers; kept under ideal conditions, and were very fine specimens of the shorthorn breed—in excellent condition. In the first case, I was called to see the older of the two animals; she had calved two days previously but did not seem well—thus the request for my attention. I examined the uterus, naturally, but found things normal, her temperature was 106, off her feed, and a cough, noticeable owing to its frequency.

In spite of treatment, she daily grew worse, rapidly became emaciated, and died absolutely skin and bone on the 13th of the month—nine days after I first saw her, and eleven from calving.

A post-mortem was made, with the result that one of the worst cases of generalized tuberculosis presented itself. The uterus was alright, and there is no doubt that tuberculosis was the actual cause of death.

The following year, on August 30th, the own sister to the previous mentioned beast calved. She appeared unwell, and the owner, being anxious about her owing to her relationship, requested me to look at her. She presented symptoms similar to the other case, followed the same course, and died on the 13th of the month, and the post-mortem, as in the first case, was purely one of generalised tuberculosis.

Here, then, we have two apparently healthy animals affected with tuberculosis, and the act of parturition—a normal one—acting as an exciting cause, whereby within fourteen days both die from a disease which had never been suspected, although in existence.

My reasons for reporting these cases are, first, that it may enlighten those who, as yet, have not observed them; secondly, that it may not surprise them when they do; and lastly, as an incentive to those who are doubtful, when they have newly calved cows "wrong" after a normal calving and cleansing, to look carefully for signs of tuberculosis.

W. BROWN.

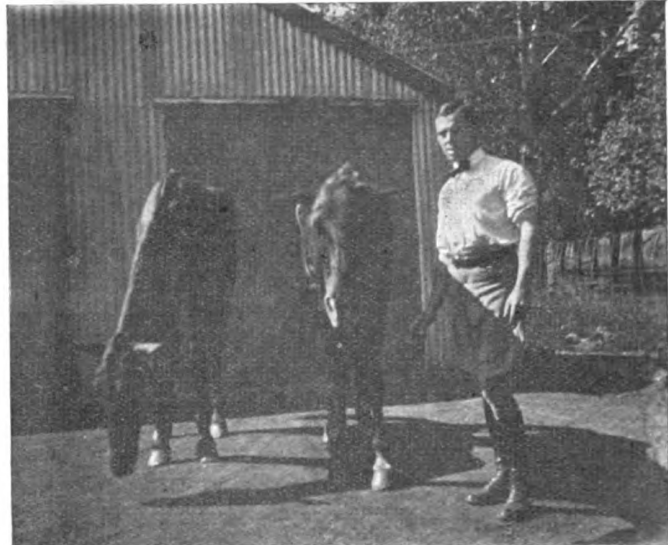
Workshop.

HORSE SICKNESS.

I enclose herewith a snapshot taken during my recent visit to an outlying district, to carry out horse sickness inoculation work.

The photo represents two varieties of the disease, viz., the Dik-kop, and the Cardiac with slight Dik-kop. The former is depicted with the pendulous head, and the swelling is of a more severe form, as evidenced by the attitude, although the cardiac is the more deadly of the two.

G. T. HENDERSON, M.R.C.V.S., D.V.S.
East Griqualand.



A CASE OF CHRONIC NASAL DISCHARGE.

By Major E. E. MARTIN, F.R.C.V.S., D.V.H., A.V.C.

Chronic nasal discharge cases are frequently some of the most troublesome a practitioner has to deal with and, as in a case that came recently under my notice, the source of the trouble proved to be one that is not commonly mentioned in text books. I thought it might prove interesting to record it.

The patient was an artillery horse of the light vanner type. He was at a small out-station which was visited monthly by a veterinary officer. I think I can best describe the case by giving a few extracts from the official record of the case.

7th January, 1913. This is apparently an ordinary case of catarrh with bi-lateral nasal discharge, slight rise of temperature and typical symptoms, except for the fact that there was a strong odour from the discharges. I was informed that this animal had had this smell from the nostrils, but without any discharge, for a very considerable time, in fact nearly all the time he had been with the Battery—he had been seen by veterinary officers at various times, but no conclusion as to cause was apparently arrived at.

4th February. Discharge ceased, but breath even more offensive.

15th February. Still no discharge, but breath can be smelt some yards away—had him galloped, but no great distress shown. Horse looks rather falling away in condition.

As the case was evidently doing no good and required careful watching and probably surgical treatment, I had him sent to the Station Veterinary Hospital, Bulford.

The symptoms noted on animal were:

21st February. Slight discharge from both nostrils, especially after exercise. An offensive smell at all times. No submaxillary gland enlargement. Careful examination of teeth does not dis-

close any disease. Feeds well, and not in bad condition. Tested with mallein with negative results. Facial sinuses explored with a gimlet with negative results.

The disease was diagnosed as probably, disease of the turbinated bones. All the facial sinuses were opened in turn and in no case was any disease found. They were flushed out daily for a long period in the hope that if there was disease deeply situated it might be reached.

I saw the case from time to time and could not quite make up my mind as to diagnosis. I could not reconcile the idea of their being any necrotic disease in the head, with the fact that the submaxillary glands showed no enlargement, and though I thought of and suggested gangrene of the lungs, I could not believe that a horse could keep fair condition, do good exercise, and show no temperature variation with gangrene or abscess of the lungs.

At times the discharge would cease for some weeks, but the smell was invariably there, though sometimes less than at others. Sometimes there was a deal of coughing.

The horse was kept until the 15th of July and was then destroyed.

The abdominal organs were quite healthy, the lungs and heart were removed from the chest by cutting through the windpipe and large vessels, and on looking into the windpipe I saw a collection of purulent material. The anterior lobe of the right lung appeared slightly larger than normal, and was found to be very fluctuating; squeezing it caused an increase of the pus in the right bronchus, with some bubbling of air; I found, in fact, that the anterior lobe was little else than an abscess cavity. On cutting into it a yellow creamy stinking pus escaped, together with a certain quantity of gas; the cavity was irregularly shaped, but it would hold about eight or ten ounces. It opened into one of the small bronchioles and so communicated direct with the bronchus and trachea.

All Army horses are provided with veterinary history sheets which form a record of their ailments from the time of joining the Service, and one would carefully look at this record to see if anything is likely to throw light on the present case.

The following are the chief items of interest. He was born in 1906, purchased in July, 1910, and posted to the Battery in December of that year. In the following October he had an attack of strangles, but was only in hospital nine days, and the Veterinary Officer's remarks on his illness were "Patient in good condition throughout. The abscess under jaw was opened and gave no more trouble."

The next entry was from the 5th May, 1912, to 30th June, 1912, for debility in camp on Salisbury Plain, and this entry for illness of nearly two months looks rather suspicious. Was there anything more than debility, and would not a subacute attack of pneumonia have been likely to set up the symptoms that were put down to debility?

There appears little doubt that we must date this abscess in the lungs either from the attack of strangles from which he suffered in October, 1911, or the two months' illness shown as "debility" on Salisbury Plain in May and June, 1912.

ABSTRACT FROM FOREIGN JOURNALS

EFFECT OF WASP STINGS UPON HORSES.

Ohler, of Neustadt, records this case. Boys were attempting to destroy a wasp's nest by the roadside with a long pole. The wasps were irritated, and fell in troops upon two horses passing along the road. The carman ran away; while the horses, which were harnessed to a heavily laden waggon, were stung by the wasps.

When the horses were got back into the stable, they threw themselves down and rolled. This apparently increased the pain, so that they underwent a veritable attack of frenzy. They became quiet after the subcutaneous injection of morphia, washing with Sal. ammoniac and water, and the application of menthol and glycerine in spirit.

In the evening, about seven or eight hours after the accident, the horses were trembling over the whole of their bodies. The temperature had risen to 104° F., the respiration was forced, and the heart's action tumultuous. The pulse rate was 30 per minute. Collapse of the heart appeared imminent, but was warded off by copious doses of Cognac and the subcutaneous administration of Ol. camph. fort.

The next day some amelioration was apparent, as the horses were calm and the cardiac action had improved. Fever still persisted, and the animals refused all food.

On the fourth day a moist eczema appeared on the neck and head, giving those parts the appearance of having been sharply blistered. The appearance of this eczema was coincident with a visible improvement in the condition of the horses. The

fever subsided, the appetite returned, and in a few days the animals could again be used for work. The eczema was treated with a 1 in 3000 sublimate solution, and healed after five days.—(*Münchener Tier. Woch.*)

INTRADERMIC INOCULATIONS OF TUBERCLE BACILLI AS A TEST FOR THEIR VIRULENCE.

E. Burnet and C. Mantoux communicate (*Soc. de Biologie*) experiments which they have made with the object of determining whether the cutaneous tuberculous affections of animals, present characters analogous to human forms of cutaneous tuberculosis. They have made comparative inoculations of tubercle bacilli varying in virulence within and under the skin of the thigh in guinea-pigs, and also in the sole of a hind foot. From their experiments it results that intradermic inoculation of tubercle bacilli in the skin of the guinea-pig's thigh causes lesions more precocious and more extensive than does subcutaneous inoculation. The reverse is observed when the inoculation is made in the skin of the sole.

The precocity of appearance, the extension, and the depth of the lesions obtained by intradermic inoculation are dependent upon the virulence of the bacilli. This method therefore forms a rapid criterion to determine the virulence of bacillary strains—(*La Semaine Vét.*)

W. R. C.

NATIONAL ASSOCIATION OF VETERINARY INSPECTORS.

EXPERIENCES GAINED IN THE WORKING OF THE TUBERCULOSIS ORDER, 1913.* by HUGH BEGG, F.R.C.V.S., County District Veterinary Inspector, Lanarkshire.

Mr. Chairman and Gentlemen,—When Mr. Spencer, our energetic Secretary, invited me by telegram to initiate a discussion here to-day on "Experiences gained in working the new Tuberculosis Order," he was doubtless influenced by the knowledge that my Council had from the beginning welcomed the Order, and had proceeded to carry it out enthusiastically. That he ventured to risk the success of this meeting by asking one who is a comparative novice in debate to start the discussion was an indiscretion for which you will later on have the opportunity of calling him in question.

Perhaps you will excuse my temerity in acceding to his request on the plea that with plenty of opportunity I have had some practical experience of the working of the Order, although possibly my method of portraying my experience and making practical deductions may be somewhat faulty. It is not my intention to expatiate on the clamant need that has long existed for a more or less direct national assault on bovine tuberculosis. As a profession, we have intimate knowledge of the blasting of many stockowners' careers by the ravages of this fell bovine scourge, and we are not ignorant of the danger to man that lurks in the flesh and milk of the tuberculous animals. And though you and I, who have the privilege of carrying out this Order entrusted to us with such confidence by the Board of Agriculture, may

* Opening of discussion at First Annual General Meeting in the Caledonian Room of the Holborn Restaurant, London, on July 28th.

to-day be found making suggestions for the easier working of it that may merit the consideration of others, I feel sure that I express your candid opinion when I say that no order has ever emanated from the Board of Agriculture that has called forth such admiration from the veterinary profession and stockowners of this country as the Order now under consideration. Let us be thankful every day for the efficiency of the Board of Agriculture as a Government department which is thorough and up-to-date in its methods, and most obliging and helpful to local authorities. I think also that the Board are to be congratulated on the courage which they have shown in making the Order and insisting upon its enforcement notwithstanding the strong opposition with which it was met from certain quarters. Our experience in Lanark is that stockowners have shown every willingness to co-operate with the Local Authority in their efforts to administer the Order efficiently, and as was to be expected, the members of the veterinary profession have been most helpful in detecting cases of disease.

It would be an easy matter to criticise the Order on the ground of its limitations in dealing radically with the scourge of bovine tuberculosis. To do so would simply be to reiterate such arguments as we are assured Mr. Runciman and his advisers made use of in their attempt to force the hand of the Treasury before the Order was issued. It is therefore our duty, in gratitude to the Board and in loyalty to the veterinarian who has emancipated us by so well safeguarding our interests in this great work, to faithfully carry out the requirements of the Order, strictly observing its limitations, so that they may be able at the end of the year to show that the operations designed by them on the basis of the grant promised by the Treasury were statesmanlike and were founded on a clear practical knowledge of the subject.

To the veterinary inspector who realises his responsibility, and I am sure we all do, there is no duty placed upon him under the Order that he is not capable of fulfilling. Doubtless each of us has found little difficulties cropping up in one department or another—this was only to be expected in any new work—but each difficulty surmounted means experience gained, and fits us the better for future work, and especially for the more advanced steps that will eventually be taken to deal with tuberculous animals generally. After working the Order for three months in Lanarkshire, notwithstanding our desire for certain alterations on it, we consider it to be eminently practicable in operation.

Probably the surest method of embracing in our debate all the points worthy of notice will be to consider *seriatim* each of the articles of the Order, and refer as we proceed to any point which we think should be modified or amplified.

As you are aware, Articles 2 and 3 deal with notification by owners or persons in charge, and veterinary surgeons respectively. In the former case, the act of reporting automatically places the animal under the provisions of Article 9 (Precautions to be adopted with respect to milk) or 10 (Detention and isolation of suspected animals) as the case may be. Owners often plead ignorance of these provisions.

In that case, the inspector may, though he is not required to, serve on the owner a written or printed form embodying the requirements of Articles 9 or 10 or both. In all cases notified otherwise than by the owner, we have thought it expedient to serve one or other or both of these forms, unless the animal was one which obviously did not come within the scope of the Order. It will also be observed that Articles 2 (1) and 3 (1) require the Local Authority to inform the Sanitary Authority of every case notified; and that Article 4 (5) requires a copy of the Veterinary Inspector's

report to be sent to the Sanitary Authority; while Article 5 (1) requires notice of intention to slaughter to be sent to the Board. The Order does not require the result of the post-mortem examination to be sent to the Board or to the Sanitary Authority. It seems that there is a superfluity of reporting to the Sanitary Authority since (firstly) many cases are notified on very flimsy evidence, and (secondly) there is always a possibility that the inspector's preliminary report may be wrong. I suppose the object of informing the Sanitary Authority that an animal has been reported as suspect is to give that authority, should they see fit, the opportunity of taking steps under the Public Health Acts, yet the Veterinary Inspector's preliminary report is negative in a large percentage of cases, and I fail to see what interest the Sanitary Authority can have in any cases but those which on post-mortem examination are shown to be tubercular. Besides, the necessity of sending the preliminary reports to the Sanitary Authorities has the additional objection that it puts the officials of these authorities to needless trouble in cases that turn out to require no attention on their part.

Nevertheless, as already stated, the Order does not require the post-mortem result to be sent either to the Board or to the Sanitary Authority, and I submit that the only notification of value to the Sanitary Authority would be a copy of the post-mortem certificate of positive cases. We believe that this limited notification would better accomplish the object of the Order "in requiring notice to be given to the Sanitary Authority," because the evidence of disease having existed in a given herd would not be hypothetical but conclusive.

Respecting the fees payable to reporting veterinary surgeons, the first two paragraphs of Article 3 make it quite clear that the fee is payable irrespective of the result of the veterinary inspector's examination. That, I believe, is the intention, though I submit that the words "and are found to be diseased" in paragraph 3, are a little confusing.

Coming to Article 4, we see that while in Articles 2 and 3 the owner and the veterinary surgeon are expected to report animals suspected of suffering from:

- (a) Tuberculosis of the udder, indurated udder, or other chronic disease of the udder; or
- (b) Tuberculosis with emaciation, the indictment is here extended to include
- (c) Animals giving tuberculous milk.

The question here arises whether a veterinary surgeon who reported a cow as giving tuberculous milk would be entitled to a reporting fee. On a strict reading he would not, but I reckon no local authority would refuse it.

In inspecting and examining animals reported under the Order, to determine whether they can be put down under any of the above heads, any difficulty that arises under (a) and (c) is very much confined to the use of the microscope in determining the presence of tubercle bacilli in the milk. In Lanarkshire, which is perhaps more favourably situated than most counties, there is a fully equipped laboratory and an experienced bacteriologist, whose services are always available. Of the milk samples examined under the Dairies, Cowsheds, and Milkshops Order and the Tuberculosis Order, only a very small percentage that were negative in the smear have proved positive in the guinea-pig, and when this has occurred the lesions resulting from intraperitoneal inoculation after twenty-one days are very much less than those set up when a milk sample which gives a positive smear is tested biologically, the contrast in the lesions being due to the difference in the bacillary count of the two samples. The biological testing of milk for the purposes of this Order is so slow as to be markedly impracticable. Indeed, I would hesitate to keep a cow restricted under

Article 9, whose milk gave no result on smear examination, and I have never yet done so. It is our duty, therefore, to make the very most of smear examination. It would be unfair to lock up a cow's milk for three or four weeks which has passed a smear examination without compensating the owner, because fully 90 of such cases give no result biologically, and the danger that lies in the milk of the few that are caught in the guinea-pig is so small as to be almost negligible. I think the restriction should be withdrawn meantime, and in any case where the biological test is positive, the cow can be retacked without hesitation. To obviate, lessen, or justify this delay, the inspector should, at his discretion, take further samples for smear examination. Our experience is that unmixed samples of milk properly taken into sterile bottles and examined within twelve hours, never contain acid-fast bacilli that are not tubercle bacilli, and the county bacteriologist's method of staining is the simple Ziehl-Neelsen without elaboration. Some time ago, out of 31 samples positive in the smear, 14 were inoculated into guinea-pigs, producing typical lesions of tuberculosis, while in the other 17 cases the cows' udders were recovered and examined microscopically with positive results. In the face of that evidence one is not justified in sacrificing laboratory animals when the smear shows acid-fast bacilli.

The best method of taking a milk sample to get the largest bacillary count is a very important matter. In many cases the amount of secretion available is so little that we just take all we can get, stripping and drawing it off to the last drop. But in a quarter containing, say, 12 ounces, it appears to be a moot point whether the first, second, or third fill of a four-ounce bottle is the best sample to take. Mr. Brittlebank has decided in favour of the after-milk or strippings, and recommends massaging of the udder, with the object apparently of dislodging bacilli. Theoretically, this method would at once draw 100 per cent. of discipules, but while I do not wish to deny Mr. Brittlebank's statements, or oppose his opinion too strongly, it is my duty to say that, as a result of accurately conducted experiments which are published elsewhere, we found that the middle sample of milk often contained a bacillary count three times greater than the after-milk or strippings taken by the aid of massage. If Mr. Brittlebank has results to prove his opinion, probably the discrepancy between his conclusions and mine is to be attributed to inherent national characteristics of Scottish tubercle bacilli, which may be more easily captured by stratagem than by compulsion, and I suggest that it would be difficult to prove that, snail-like, they do not cling more firmly to the tissues when disturbed.

I need not delay by describing the well-known typical features of tubercular mastitis. In the great majority of cases the appearance of the secretion from the tubercular quarter guides us very little, though the deposit after centrifugalising, even the most normal looking of samples, usually possesses suggestive characters, viz., a grey coloured and more plentiful deposit than is yielded by healthy milk. Still, the deposit differs materially in appearance, but is not nearly so plentiful as that got from a sample of milk containing streptococci. It is my experience that no matter how long or how short the period is that a cow has been dry, if one of her quarters is tuberculous, it always contains some secretion, and this in almost every case is a clear yellowish salmon-coloured fluid showing very little deposit after standing a few hours. When such a secretion is got from an irregularly indurated and hard, painless quarter, you may reckon it contains tubercle bacilli every time.

Turning now from the milk cases to the third indictment head "Tuberculosis with emaciation," if your experience coincides with mine it will have involved at

times no small amount of indecision. For the first few weeks I confess that I interpreted the phrase liberally rather than literally, believing that animals with an abnormal discharge containing tubercle bacilli should be taken, even though they were in fair condition. My reason for so acting was based on the Board's circular letter to local authorities of date 25th March, in paragraph 3 of which they advise local authorities to instruct their veterinary inspectors with the view to avoid errors in diagnosis that—

- (a) In the case of cows suspected of having tuberculosis of the udder or giving tuberculous milk, samples of milk should be centrifugalized and examined for tubercle bacilli with the microscope.
- (b) In the case of animals suspected on account of an abnormal discharge, the latter should be examined microscopically for tubercle bacilli.
- (c) In the case of animals suspected to be suffering from tuberculosis with emaciation, but which are not suspected to be suffering from tuberculosis of the udder or to be giving tuberculous milk, all possible use should be made of the use of tuberculin.

You will notice that recommendation (b) dealing with cases with abnormal discharge is not tacked on or subsidiary to (c) tuberculosis with emaciation. At first, I believe that some elasticity of interpretation by the veterinary inspector was intended by the Board. Now, however, my understanding of the Board's intention is that "Tuberculosis with emaciation" is, for the meantime at least, to be literally interpreted (in all likelihood the returns they are receiving have something to do with this) and tuberculous animals are not to be slaughtered under this head unless, and until, they are really emaciated in the full sense of the term. The argument against including animals not advanced in emaciation will be further considered when we deal with Article 8.

Opinion with regard to what constitutes "tuberculosis with emaciation" may vary within wide limits. We might define the phrase as meaning any material loss of condition in an animal clinically affected with tuberculosis; but that would be an error, for, if the animal is not quite thin and wasted, and practically in the later stage of wasting from tuberculosis, we are not entitled to deal with it under the Order. And if the animal is not emaciated in that extreme sense, it is not intended that we should slaughter it, even though it be a criminal disseminator of disease, coughing up sputum teeming with tubercle bacilli. The fact that Clause (3) of Article 4 empowers us to take samples of the faeces or urine of any bovine animal on the premises, or of any abnormal discharge from any bovine animal thereon is not to be taken as implying that when any such samples are positive they are to be considered equivalent to a positive milk sample as a reason for slaughtering the animal. If, however, the animal is a cow-in-milk with a normal udder, I make an attempt to catch her for giving tuberculous milk while restricted under Article 10 only, and if the smear is negative, it is put through the guinea-pig. If the biological experiment also be negative, it sometimes happens that with the lapse of three or four weeks, the loss of condition may be such as to warrant taking her under "tuberculosis with emaciation."

That we have no power to put down such an animal is indeed a severe and serious limitation of our scope of action, since the animal that pollutes her stall with tuberculous sputum, faeces, urine, or uterine discharge, etc., must be a potent factor in spreading the disease and providing a future crop of cases.

The Board's reason for allowing such an animal to live is admittedly not a scientific one, but they do not require us to point out this—they are quite aware of it. It is on the ground of finance alone that they have not included such cases in the Order, and if failure to

include them seems suicidal, let us remember that it was necessary for the Board to draw a line somewhere, and that they are in a much better position than you or I to judge how much might be done with the means at their disposal, and without endangering the whole project by undue heroism in their first assault. We must also remember and be thankful that whereas up till three months ago the little that was being done by us in the fight against bovine tuberculosis was in most cases as assistants to others under the Public Health Acts. Now we have a Board of Agriculture Order giving us absolute power as inspectors within the limits of its Articles, and we may rest assured that when some experience has been gained, the veterinary advisers of the Board will know exactly what advice to give, when with increased grants from the Treasury it will be possible to widen materially the scope of the Order.

Although the Order has only been in operation for a short time, much valuable information has been gained already, both as to its practical and financial effects. It may be looked on as experimental to some extent, but I think it will be found that, within a period much earlier than was at first thought possible, we will be asked to deal with those forms of the disease to which I have referred, or in other words, that the time for "heroic" measures will arrive very soon. This will be brought about (1) by the recognition of the fact that unless we can get at all cases capable of spreading disease our work will be partially ineffective, and (2) by the fact that will, I think, be proved by experience that the question of financial compensation is not such a serious one as was at first anticipated. The Board are fully alive to all that is going on, and they may be trusted to take further action when they think that the opportune time has arrived.

Further, I am sure it is intended with a view to keeping down administrative expenses (which might conceivably reduce the whole work to an *impasse*) that we should, so far as it is possible, determine cases by clinical examination with a single visit. I have found this possible in quite a number of cases, and have on the spot arrived at a mutual valuation, and as required by the Order, served a statement of it on the owner, as well as a notice of intention to slaughter, and had the animals removed to the slaughterhouse on the same day. To use tuberculin in the case of an animal not advanced in emaciation is perhaps undesirable, for if the animal reacts, the owner naturally expects the case to be dealt with. It is my practice now to limit its use to non-febrile animals advanced in emaciation from an ill-defined cause, and which present no characteristic symptoms of lung disease or enlargement of superficial lymphatic glands etc.—very many of these when non-reactors prove to be the victims of Johne's disease. If any abnormal discharge from animals so emaciated is available, and is found positive when examined microscopically, the expense and trouble of tuberculin testing is avoided—besides, as you know, tuberculin is not always reliable in advanced tuberculosis.

In my experience, with the exception of strongylosis, pulmonary affections which yield on auscultation sounds indistinguishable from those of phthisis are accompanied by fairly constant fever. If in doubt it is my practice to restrict the animal under Article 10, when the owner may elect to have it treated or destroyed at his own risk. I grant that some of these may be cases of acute miliary tuberculosis of the lungs, or a combination of pneumonia and reactivated tubercular lesions, but while they are feverish I do not deal further with them unless I can secure some expectorate which proves positive, and the animal is emaciated. If this is not available, the victim of acute lung disease is likely to show some improvement or die in a very few days, and I fail to see that compensation should be paid for an animal that is palpably dying of a febrile affection.

Further, we have constantly to remember that the higher valuation is payable if an animal, however valueless it may be, is killed under the Order, and the post-mortem reveals no lesions of tuberculosis. Apart from pulmonary complaints, there are numerous pitfalls for the unwary inspector, *e.g.* septic conditions of the uterus, udder, digestive organs, the pleura, peritoneum, articulations, and feet; abnormalities and diseases of the teeth, pharynx, gullet, etc., parasitic affections, neoplasms involving important internal organs, and numerous other chronic conditions which are often associated with extreme emaciation, and demand for a correct diagnosis, so that their merits may be properly assessed, such an exhaustive clinical examination as can only be made by an experienced cattle practitioner.

Hitherto I have experienced no difficulty in arriving at a reasonable mutual valuation of all animals condemned, no objection has ever been made to immediate slaughter, and I am not aware that any owner has refused to accept my post-mortem certificate and the compensation that fell to be paid, except in one case where the owner of a cow slaughtered on account of a tuberculous udder erroneously thought he was entitled to the higher valuation because the disease was certified as "not advanced" on post-mortem, and the carcase had been passed by the inspector of meat.

Notwithstanding what has been said by some inspectors against our acting as valuers of condemned animals, I cannot believe that the man who is so well up in cattle practice as to be fitted to act as a veterinary inspector is not the best man to value diseased animals. For the sake of keeping down expenses they should frankly accept the duty, and I venture to say that in 95 per cent. of cases they will have but little if any trouble, and it is always open to them to fall back on an independent valuer, or the Board in exceptional cases. In fixing the higher valuation we need not be stingy, since it and the extra sovereign are only payable when we have erred in diagnosis, and in that event the owner is entitled to be dealt with liberally. Nevertheless, suitable deductions according to the type of animals should be made from its hypothetical maximum value for, say, the stage of lactation, the loss of a quarter or any diseased condition of the udder, loss of flesh, etc., etc. In settling the lower or diseased value, difficulty only arises in the case of cows in fair condition condemned for tuberculosis of the udder or giving tuberculous milk, the flesh of which may wholly or in part be passed for food. Here I consider one should value as fleshers would, who deal in such animals, erring on the side of generosity, and remembering that at best, three-quarters of the value only is payable, while at the same time not forgetting that the market value of such animals is at all times based on the knowledge that they suffer considerable wastage in the hands of the inspector of meat. We need not at any time, unless we care, value the animal at less than £6, because the minimum sum payable is quarter of the lower valuation or £1 10s., whichever is the greater.

Reverting again to "tuberculosis with emaciation," I conclude that few animals included in this category could be valued at more than £6. Our interest in valuing the latter animals merges into our consideration of Article 8—"compensation." In determining whether tuberculosis is "advanced" or "not advanced," it is provided under Article 8 (4) "that the disease is to be considered as 'advanced' when the carcase is emaciated and tuberculous lesions are present." The word carcase here includes all the organs, so it follows:

(a) When a live animal is condemned for "tuberculosis with emaciation," the carcase (provided no mistake in the diagnosis of the disease has been made) must also be tabulated "tuberculosis with emaciation," and be paid for at the lowest rate of compensation. The

veterinary inspector having in his preliminary report returned the case under the heading "tuberculosis with emaciation" would have but to find the presence of lesions, however infinitesimal in some part of an organ to conclude the presence of "advanced tuberculosis," since to record it otherwise would be a flat contradiction of his preliminary report.

- (b) If that argument is conceded, and if we were to deal under this head with cattle in fair condition of body because they had clinical evidence of disease, or were discharging material containing tubercle bacilli, it would inevitably follow in many cases that the salvage from the carcass would exceed the amount of compensation payable, and though the surplus would be payable to the owner, there would be an apparent conflict of opinion between the veterinary inspector and the meat inspector—a most undesirable state of affairs. That, however, is what we must be prepared to face if we include animals not quite advanced in emaciation and whose carcasses are not foredoomed to confiscation by the meat inspector. By demanding a literal interpretation of this heading, the Board ensure that at most only a few shillings fall to be paid by them as their share of compensation.

Nevertheless, I feel sure that if the Board were to extend the Order so as to enable us to deal with animals suffering from pulmonary tuberculosis and voiding tuberculous sputum, irrespective of their bodily condition, the amount of compensation payable per head would not be a serious matter, because—

(1) If disease were found to be "advanced" in post-mortem, only quarter of the lower valuation would still be payable.

(2) If the disease were "not advanced" it is practically certain that the whole or part of the carcass would be passed for food, and the salvage got in very many cases would defray the extra compensation payable. It is a sorry business to contemplate in this hot weather the lot of a coughing cow segregated under Article 10 in an odd shed, denied the freedom of pasture or the company of her neighbours, and waiting on the day when she will be thin enough to meet her doom. Again, we must remember that cases of open tuberculosis under detention need supervision, which means expense to the local authority. From a professional point of view this lack of power to deal with all open cases is, to my mind, the one stigma that attaches to the Order, but, of course, it is easy to use destructive criticism.

In Lanarkshire we convey the animals in a float to the nearest abattoir at our own expense, and send the hides direct to a hide market. The latter average about £1 in value—the condemned flesh fetches about 1 6d. per cwt., so that in these cases the cost to the Board is a mere bagatelle compared to the expense incurred by the Local Authority. We have advised our meat inspectors that a high standard is to be adopted with the carcasses of all animals killed under the Order. We have have sold all flesh passed as sound at an overhead price of 3d. to 3½d. per lb., and it is in great demand.

Besides the usual books for records and returns required by the Board, I keep (a) a Register of cases reported, (b) a Veterinary Expenses Record, which enables us to keep account of the cost of administration in each case, and (c), a salvage and cost of slaughtering record, and my assistant keeps a special book in which the history of cases is related, giving prominence to features of unusual professional interest.

I have with me some of our stationery and a copy of four statements to show the results in detail of working the Order in Lanarkshire during the month of May.

I have not yet under this Order had to deal with any notification that a certain herd was supplying tuberculous milk. Such a case I would deal with by a process of negation, dividing up the animals, examining milk

samples, and so narrowing the issue till the culprit or culprits were found.

We have had two cases of cows that died in transit to the abattoir, and one that died after negotiations were completed but before the carcass was removed. Strictly speaking, compensation is not payable in these cases. What is meant by the word "premises" is a point that mainly concerns the accuracy of returns in which the number of animals in the premises and the number examined require to be stated.

As yet we have done very little inspection of markets in Lanarkshire for the detection of tuberculous animals, but we have now begun this work in earnest. When the days shorten a little we will resume our usual inspection of farm dairy animals, and this will assuredly bring to light a crop of cases to be dealt with under the Order.

Finally, let me say that in assessing the total value of this Order to the stock-owning community and the consumers of milk, no estimate would be complete that did not take into account the effect which its operation will have in educating the people in the subject of disease prevention, cleanliness, etc.

The effects of the Order cannot fail to be beneficial, and it is my view that experience will certainly prove the soundness of the judgment and foresight of the Board.

RESOLUTIONS.

At the suggestion of Mr. Spenser I have drawn up the following resolutions which I now submit for your approval.

1. That this meeting of Veterinary Inspectors, recognising the great practical value of Tuberculin as a diagnostic agent in operating the Tuberculosis Order, regard the present indiscriminate and sometimes fraudulent use of it by unqualified persons as inimical to the proper working of the Order, and agree to represent that the power to possess or use it by unprofessional persons be prohibited.
2. That a copy of this resolution be sent to the Board of Agriculture, the Local Government Board, and the Royal College of Veterinary Surgeons.

Mr. J. CROWHURST said he took especial interest in the matter, because at the last meeting of the Association he put the question to Sir Stewart Stockman whether he could recommend the Board of Agriculture to pass some measure whereby the use of tuberculin should not be in the hands of dealers and owners of stock to be used indiscriminately. His clients were too valuable to him for him to suggest that they would use tuberculin with the object of fraud, but there were people in the world who would use it with such an object, and, in his opinion, it was undesirable that tuberculin should be in their hands. It took away from the inspector the opportunity of arriving at a just and correct conclusion. It had been suggested by the President that Sir Stewart Stockman had been ill, and that might account for the reason that nothing more had been heard about that measure. He had great pleasure in supporting Mr. Begg's proposition, because he believed it would bring the notice of the Board of Agriculture the fact that it was not desirable that tuberculin should be used by the owners of stock. He understood that tuberculin could be obtained from Germany for about 3d. a dose, and he thought the members would agree with him that it could not be reliable at such a price. It might, however, have the effect of frustrating the inspector's investigations.

Mr. F. L. GOOCH enquired whether it would not be desirable to put an addendum to the resolution saying that all tuberculin should be standardised.

Mr. J. CAMERON asked whether it would not be a good thing if the Board of Agriculture were asked to pay the costs—or to reduce the cost say by one half—

of testing the animals of any farmer who wanted his animals tested. That would do away with the temptation to remove them to another place.

Mr. G. P. MALE said he had pleasure in supporting Mr. Begg's resolution, as it was on very much the same lines as the resolution he hoped to propose at the forthcoming National meeting. In his district various persons were going round applying the tuberculin test at a very cheap rate and were thus defeating the objects of the Order. He did not think anybody intended to restrict the sale of tuberculin from abroad, such as the Pasteur tuberculin or any other tuberculin, but he thought there should be some restriction on the sale of it.

Mr. R. BARRON said that Dr. Cobbett of Cambridge had told him that one could test cattle with tuberculin every two days and get a reaction. That news had surprised him considerably. If that were the fact, the people to whom Mr. Male had referred could be defeated if the cow was kept for forty-eight hours before testing. If they had tested the cow beforehand, they could not defeat the Inspector. That was a very practical point.

Mr. D. PUGH desired to draw the members' attention to an experiment which he thought might interest them. At his instigation Mr. Robert Mond bought four tuberculous cows. They were small Jersey cows. He desired to know what would be the effect of a continuous injection of tuberculin. The cows were injected, and a definite reaction obtained, which was recorded in the office. The injection was increased by 3 c.c. every day, and by the time 12 c.c. were reached, three of the animals ceased to react. The fourth continued to react, although he should not call it a definite reaction, because the temperature at the end of every twenty-four hours did not come actually to normal; but he wanted to see what the effect of the continued inoculation would be, and he kept on until the animal was inoculated with 69 c.c., when she got so poor that he decided to have her killed. It was found that every organ in that cow's body was infected with tuberculosis. The other three animals which ceased to react with 12 c.c. were allowed to rest for a month and were again injected with 3 c.c. He then gave them 12 c.c., which was the dose at which they ceased to react, and one of them gave a definite reaction with 12 c.c. Last week he had put the animals through the same process again; he injected them with 3 c.c. and then with 12 c.c., and now they had ceased to react entirely. He had not done sufficient with them to say whether there was a cure, or whether it was merely toleration, but in his opinion it was a cure. He would have to wait and keep testing the animals and ultimately have them destroyed.

Then he had four Shorthorn cows, which were inoculated every fortnight. After a period of time they ceased to react, but one of them had to be inoculated to a tremendous extent before it did cease to react.

He thought the members ought to push forward the motion for all they were worth. It was not the financial point they had to look at; it was the honour of the profession.

The PRESIDENT thought that Mr. Gooch's suggestion as to standardising tuberculin should be put as a separate motion, and he would therefore put Mr. Begg's proposition to the meeting.

The motion was then put and carried.

Mr. GOOCH then moved:—"That in the opinion of this Association the time has arrived when all tuberculin supplied to the veterinary profession should be standardised."

Mr. J. W. BRITTLEBANK seconded the motion. In doing so he said in his experience the standardisation of tuberculin was more called for than the restriction of its sale. It was really ridiculous, if one tried a good many tuberculins, to find how different the results

were. Some tuberculins were absolutely useless, and with regard to others, even in advanced cases, an ordinary normal dose would give a reaction. With regard to what had been said about repeated doses of tuberculin, he was afraid his experience had been that one could use tuberculin as often as one liked, and obtain reactions, but one had to be careful where the tuberculin came from.

Mr. W. R. EMERY suggested to all veterinary surgeons or veterinary inspectors who used tuberculin that they should obtain it from the Royal Veterinary College. His experience of such tuberculin was that it was always efficient, satisfactory, and of standard quality.

The PRESIDENT said it was a personal matter as to where the members obtained their tuberculin.

Mr. T. EATON JONES asked if the motion would not be placing a hardship on tuberculin manufacturers. A practitioner, if he used much tuberculin, would find out whether it was reliable or not. Personally he did not think there would be much use in standardising tuberculin, and it would be imposing a hardship on a good many reliable manufacturers.

The PRESIDENT said there was no doubt that various actions were obtained from various tuberculins, some of which were very misleading. He knew of one case where a gentleman tested some animals with tuberculin which gave no reaction. Another gentleman tested them with a different tuberculin, and obtained a reaction. He did not know how tuberculin was going to be standardised. There were a lot of foreign manufacturers sending tuberculin into this country, but so far as tuberculin manufacturers in this country were concerned, they, at all events, might standardise it. It could do no harm to pass the motion.

Mr. J. F. HEALY said at the late Dublin Show the American buyers tested all the animals with Pasteur's tuberculin. The matter ought to be considered before the motion was passed, because the South American buyers would not have any tuberculin other than Pasteur's.

Mr. F. L. GOOCH said he had had to test 15 bulls for the South American trade, and they were all tested with M'Fadyean's tuberculin.

Mr. H. G. LEPPER said there were times when tuberculin of a higher standard was required than at other times. That was a point to be considered.

Mr. T. EATON-JONES proposed that the motion lay on the table for twelve months.

A MEMBER said that before the resolution was passed it ought to be found out whether tuberculin could be standardised or not.

Mr. J. W. BRITTLEBANK said it was perfectly feasible to standardise all such products. It was well known to bacteriologists and chemists that all such products were capable of being made of equal value. It did not matter, he thought, whether tuberculin was sold by different people so long as veterinary surgeons obtained a really good and potent tuberculin. If a dose of one tuberculin was twice as potent to produce a reaction as a dose of a similar tuberculin sold by somebody else, where were they in practice? Mr. Jones had said that one could use a tuberculin which one found best suited to one's practice. That was all very well, but possibly the beast was tested again by somebody else and there was a negative result. He did not think there was any serious difficulty in the way at all. The indiscriminate sale of tuberculin without any value should be put a stop to, that was what it came to.

Mr. J. DUNSTAN rose to support Mr. Gooch's motion. Undoubtedly tuberculin could be standardised, and he thought it would be well for every member of the profession to know the strength or the value of the tuberculin which he was using. They were not all in the position of Mr. Jones to be able to test animals and to follow them to the slaughterhouse within a few days

and to form an opinion on the value of the various tuberculins, especially in remote country districts. Therefore he thought if a substance of standard value could be obtained, it certainly would be of the greatest possible assistance, to country practitioners especially.

Mr. J. CROWHURST said there were well known instances where animals had been tested in this country for exportation which had not reacted, but on being tested abroad did react. Either it might have been that the tuberculin on this side was not reliable, or the tuberculin on the other side was not.

The motion was then put and carried, Mr. Jones withdrawing his amendment.

Mr. E. L. DIXON desired on behalf of himself and the other members to thank Mr. Hugh Begg for his very able paper, which was full of valuable instruction. With regard to the working of the Tuberculosis Order, he had had nine cases since it had come into force dealing mainly with regard to the utilisation of the flesh for food. He was veterinary inspector to two health resorts, and his Sanitary Committees took exception to the use of the flesh of tuberculous animals as food in any form. They put it to him plainly, Did he recommend, as a veterinary surgeon, that the flesh of an animal which he had condemned for tuberculosis should be used for human consumption? He had replied, "Well, gentlemen, you cannot go outside the four corners of the Act. It permits you to use the flesh under certain conditions. It depends entirely upon the post-mortem. The valuation is either three-fourths or one-fourth, according to the result of the post-mortem." But they would not listen to him, and rather than run any risk, they had paid the three-fourths compensation instead of the one-fourth. He thought all the members were indebted to Prof. M'Fadyean for holding his classes, so that they might improve their knowledge on the matter. (Hear, hear.)

Mr. BANHAM enquired of Mr. Dixon whether his sanitary authorities worked the Diseases of Animals Act in his districts.

Mr. DIXON replied in the affirmative.

Mr. J. CAMERON said although the members were thankful to the Board of Agriculture for inaugurating the Order, and for going as far as they had done, yet they had not gone so far as it was expected they would do, or should do. Of course the authorities could not go further than their funds would allow them, and unless the profession continually made complaints on the subject, how could they expect Mr. Runciman to be able to influence the Treasury? If there were no complaints the natural thing for the Treasury to ask was, "What evidence is there that the Order is not satisfactory and that you have not enough money?" It was the profession's duty to supply that evidence, and to support the conclusions to which Mr. Begg had come, that although they were thankful for what had been done, yet still more was required to be performed.

Mr. R. BARRON said Mr. Begg was not in the unhappy position that many of his colleagues were, of having to struggle in general practice for a living, and therefore he did not deal with the question of fees quite so adequately as he (Mr. Barron) would have liked. His (Mr. Barron's) idea about the Association was that the members should unite together in order to get reasonable fees out of the County Councils. He should like to cite the case of his own County Council in Dorset. Mr. Toope advised him to get the veterinary surgeons in the county to put their heads together with him and to organise themselves, and to say that they would not do the work any longer at the current fees. He did so, with the result that after various meetings between the parties the County Council practically conceded most of their demands. His idea about the Association was that one of its functions should be to put one man in

every county to organise his fellow professional men so that they might all stand together. If they did so they were bound to win.

With regard to the working of the Order, what was being done in Dorset by the farmers was that when a cow got a bad udder they said nothing at all about it, but simply removed her out of the dairy. If it was a case of emaciation they reported it, and the veterinary surgeon was allowed to go in. The farmers complained very much about the compensation. For many of their cows which were emaciated they could get £4 to £7. They could put half a dozen of them in a truck, send them to London, and make £6 or £7 a head; whereas they only got 30s. under the Order. They therefore said that the Act was most unfair, and he himself certainly thought that the compensation allowed was not sufficient.

Mr. COLEMAN said in his district, 57 animals had been killed, and up to the present time there had not been a single mistake, and there had been some of the most dreadful cases he had ever come across. In one case the liver weighed 47 lbs., the mediastinal and bronchial lesion in one case was 4½ lbs., and in another 1½ lbs. In his experience it was very difficult to discriminate between emaciation and poorness. His definition of emaciation was when it was poorness resulting from disease and the food was not assimilated. Poorness was the result of the withholding of food or the giving of non-nutritious food. In the early part of the year the hay in his district was absolutely void of nutrition, and it was very risky to differentiate between emaciation and poorness, but fortunately he resorted to the test, and he had not made any mistake. There was a prosecution about to be taken in his district under the Order. The facts were as follows: In the first place the London County Council discovered acid-fast bacilli in the milk coming from animals on a farm in his neighbourhood. The medical officer sent a veterinary inspector down, who discovered that one of the animals was giving tuberculous milk. The medical officer thereupon advised the farmer that he must not send any more milk to London, that he must isolate the beast, and notify the local authority. The farmer notified the local authority to the extent that he employed a local lackerman, who dealt in that class of beast, and who removed it into another district. He (Mr. Coleman) went to see the beast with the deputy Chief Constable on the Saturday, but they were told it had been removed that morning. They followed it to Faringdon, and gave instructions that it was not to be dealt with until further orders. He then went to the Superintendent of Malmesbury and handed the beast over to him. On post-mortem, tubercles about as big as mustard seeds were found. The authorities were prosecuting at his end, and were going to suggest that the man who put it with the other beasts should also be prosecuted at that end. In conclusion, he might say that the farmers in his district were withholding the reporting of their cattle on account of inadequate compensation.

Mr. G. WARTNABY said so far as his district was concerned, the Order was almost a dead letter. The County Council was diametrically opposed to the Order. The Council had fixed the fees of veterinary inspectors, who had been told, "These are the fees which we are going to give you. If you do not like to accept them, say so, and we will put somebody else in your place, or we shall appoint an all-time man." Did the members think that there was a man in the district who, knowing that, was going to report a cow with an indurated udder? If a man found such an udder he would say it had been trodden upon. He would like to give the members an example of a case of tuberculosis with emaciation. A case was reported to the police about three weeks or a month ago. He visited the beast in the field, and he found a very bad case of emaciation.

In looking over the other beasts he found another case. He ordered the two beasts to be slaughtered, but on the way to the slaughterhouse one of them died. He only mentioned that to show the condition that the animals were in. They were not reported by the owner, and would not have been, had it not been that an outside man reported the case to the superintendent of the police. He would like to know the exact definition of the word "premises." Was a field with 30 or 40 beasts in it to be considered as "premises"? Was the whole farm to be considered as "premises"? The instructions of his County Council were "You must not examine any other beast except the one which is reported to you, unless you have reason to suspect that it is tuberculous." How was one going to suspect that the beast was tuberculous without going and looking through the lot? In the first case he had, he said to the police: "Telephone to the county and ask what is to be done. Here is a tuberculous beast amongst 32 others in a field." The answer came back "Examine the other beasts." When he sent his bill in, it was returned with a marginal note, "Please say on what ground you have charged such and such an amount, and where you got your instructions. We refuse to pay you." He replied that he had received his instructions from the Chief Constable's office, and his claim was allowed.

Mr. SYDNEY VILLAR asked if it was the experience of the members that animals in ill-health were likely to abort from injections of tuberculin, and whether the reaction to tuberculin in a sick animal was ever likely to be so great as to kill it.

Mr. COLEMAN said he had within the last month tested 20 cows within two months of calving, and not one of them had either aborted or showed any bad signs.

A MEMBER asked if there was any rule in regard to the period at which authorities, outside the authority of which one was veterinary inspector, should give notification that a suspected case had occurred in the locality. In his first case under the Order he received information and hurried to a farm for a suspected case, only to find that the beast had been removed six weeks previously. A mixed sample of milk from the farm had been sent to London, examined, and found tuberculous. The veterinary inspector of the London authority had come down, examined the herd, and found one animal whom he suspected to be giving tuberculous milk. He took a sample from the animal back to London, where it was no doubt physiologically tested with guinea-pigs, and found to be tuberculous. Then a notice was sent down to his (the speaker's) local authority to say that the cow was giving tuberculous milk. He thereupon went to the owner and asked where the animal was. The owner replied that it had gone. He enquired of the owner why it had gone, as it was a suspected animal. The owner replied "The inspector came down and said it was the one he suspected. I asked him what I should do. He said 'I should get rid of it as soon as you can,' and consequently the animal went straight off to the dealers, and it has not been since traced. Ought not the outside authority to notify at once the local authority of the district in which the cow was?"

The PRESIDENT, interposing, said the Act ordered that that should be done.

The MEMBER, continuing, said in the particular case he was describing, six weeks elapsed before any information was forwarded to his local authority. With regard to the disposal of carcasses, his Council took an exactly opposite view to Mr. Dixon's councils; they were extremely keen on getting all they possibly could out of the carcasses. He thought it placed the veterinary surgeon in rather an invidious position, having to try to palm off, to the very best advantage they could, meat, parts of which, at any rate, were diseased.

Mr. PITTS said one difficulty he had found was to obtain suitable places in which to slaughter the animals. Mr. Begg was in the happy position of having abattoirs supplied to him. In his (the speaker's) county the butchers would not have any of the animals near their places. The result was that he was in a very awkward position. He could not go to the adjoining farmer and ask his permission to bring a tuberculous animal on to his place and slaughter it. At present he was supplied with hampers in which to pack up what bits of the carcase were good, and send them up to the London market, but he must say that that method did not appeal to him.

Mr. CROWHURST said that in his county he sent all the meat he could to the hound kennels.

Mr. KING asked Mr. Begg in what proportion of the cows he had examined for tuberculosis of the udder, he had found the supramammary glands affected, and whether, if he had found them enlarged, he had verified they were tuberculous from post-mortem examination?

Mr. G. P. MALE said it might interest the members if he gave one or two statistics which had been prepared by the Board of Agriculture in answer to a question in the House as to the working of the Order. They were the statistics up to the 22nd July. There had been 1559 animals destroyed. On an average five cows had been examined on each premises. Very few mistakes indeed had been made by veterinary surgeons in their diagnoses. The majority of the cows were suffering from advanced tuberculosis. The average compensation given was £2. Those figures showed that most of the animals were in a very advanced stage, and probably most of them were emaciated. He quite agreed with Mr. Begg that the weakness of the Order was the clinically affected cow which was not sufficiently thin to be called emaciated, but which was a dangerous cow, and one emitting numbers of tubercle bacilli. Under the Order, a practitioner had to wait till the cow got emaciated before he could deal with it. He hoped as time went on, the Board would see its way to extend the regulations to include those cows which were clinically affected, which were coughing, say, or emitting discharges, or which had any other clinical symptoms of tuberculosis other than tuberculosis of the udder, and which were not sufficiently thin to be called emaciated. He thought that would be a very great step towards checking tuberculosis amongst the herds of this country.

Mr. W. R. EMERY said there was one point which he had noticed in connection with the animals coming into the market of which he was the inspector. Sometimes fat animals came in, were sold, taken to the butcher's, and there found diseased. How could a market inspector guide himself as to whether an animal in the market which appeared to be in tip-top health had tuberculosis or not? It was only after death that that was found out. He manipulated the udders of a great many cows each market day, and unless he found they had some induration, separate and distinct from any other part of the udder he came to the conclusion that they were tuberculous cows.

Mr. BRITTLEBANK joined in the general congratulations which had been offered to Mr. Begg on the character of the paper which he had given the members. There was no doubt about it that much of Mr. Begg's material had been so presented as to be of the very greatest possible value. Mr. Begg had handed him a table which showed how very thoroughly the whole of the Order had been administered in the County of Lanark. It was very gratifying to see there were some counties which had made up their minds to carry out the Order in some proper sort of spirit. So far as the area in which he himself worked was concerned, they seemed to be going through a period of intense excitement and resentment. He had been brought pretty

intimately into contact with the administration of the Order in several counties. The most prominent features which he had found seemed to be that the local authorities congratulated themselves that the Order was working beautifully, and their machinery was so well oiled that absolutely nothing could throw it out of gear. Taking one county, the way in which the Order had been administered up to the present time—he did not know for what reason; possibly for lack of administrative staff—had been one of the greatest shames he had known. A great many cows had been notified to the local authorities, and in many cases as long as a month elapsed before the cows were finally disposed of. Mr. Begg had very sensibly drawn attention to the awful agony which a cow went through during its period of isolation. In the case of the county he had mentioned he knew of two cases where the animals had died in their isolation surroundings whilst waiting for slaughter. Another point was that the interference of the police was very much resented. One particular individual with whom he had discussed the matter had told him that after notifying a case he had had three police constables, two sergeants, two superintendents, the deputy chief constable, the chief constable, and two other individuals whom he did not know, at his farm. The man further added: "The end of it all is that my poor wretched cow is fastened up in a loose box by herself and she is pining away and will be dead before many days are over." The animal when he (Mr. Brittlebank) saw her in the first instance was certainly not an emaciated cow but in good condition. The man received no compensation at all, because after a period of a month she died, and there was no attempt made to carry out the slaughter. It seemed to him that if a good deal of the police interference could be done away with the Order would work very much more smoothly. People who had to be dealt with under the Tuberculosis or any other Order, had committed no offence, and there was no earthly reason why they should not be treated in a sympathetic manner and helped as much as possible to get their stocks into decent condition. In his experience of the average dairy farmer the backslider was very distinctly in the minority. As years went on he was certain there would be found an enormous development of the desire to progress. Mr. Begg rather regretted that cows suffering from tuberculosis of the lungs, other than emaciated cows, were not brought within the purview of the Order. All the members regretted that, but Mr. Begg went on to say that the compensation on the quarter rate would not be serious. He (Mr. Brittlebank) was prepared to admit that from the county point of view it might not be serious, but he was also prepared to say that the opposition from the dairy farmer's point of view would be very considerable. There was not an ordinary untested dairy stock in the country which did not have two or three cows suffering from tuberculosis of the lungs, and very often such cows were as fat as working dairy cows would be. He thought before the Board could advance on such a policy as laid down by Mr. Begg, however desirable it might be, they would have very serious opposition to contend with, and they would have to very seriously amend the scale of compensation. Another point to which Mr. Begg referred was as to which particular portion of the milk contained most tubercle bacilli. That was a matter of some considerable importance. From an administrative point of view and from a practical point of view it was of the very highest importance to the veterinary inspector. Prof. Delépine had carried out a very considerable number of experiments; the whole of his work on the examination of milk stood out for its accuracy, and there was no question of doubt about it that from their experience they found that the last milk which was contained in the udder, plus any more that could be squeezed out by a process of massage.

contained most bacilli, at any rate in their district. Perhaps Mr. Begg's suggestion of Scotch bacilli containing a high degree of intelligence and armed with fish hooks might be a solution of the difficulty, but he hoped that those bacilli would stop in Scotland. His idea was not with regard to finding any intelligent bacilli, but rather the fact that if careful post-mortems and careful examinations of tuberculous udders were made, and the milk ducts were followed up as far as was possible, very often it would be found that the animal was suffering from a tuberculous ulceration of the mucous membrane of the duct; and it had always struck him that if some of the material which was lying at the bottom of the ulcerated portion could only be squeezed out, one would then get a material highly charged with tubercle bacilli.

Mr. Begg said that he had seen no case of a tuberculous quarter where one could not get any discharge or secretion. He (Mr. Brittlebank) admitted that that was true in the majority of cases, but he had had a few cases in the course of his experience where it was absolutely impossible to draw anything at all, and where it was also impossible to pass a teat tube. Such cases had been dealt with in the past on the clinical evidence presented. One might also employ the tuberculin test in such cases. It would never tell one whether the animal had a tuberculous udder or not, but it was a safeguard to some extent. With regard to the point raised by Mr. Villar about cows aborting during the testing with tuberculin, his experience had been that one need fear no untoward results at all from the administration of tuberculin. He would just describe a case of the effects of tuberculin in a herd that he had tested some little while ago. In a certain herd in an adjoining county, he was of opinion that there was such a high percentage of tuberculous animals that it was an extremely dangerous herd from which to admit the milk for sale. An Order was therefore made on the farmer restraining him from supplying any more milk to the City of Manchester. The farmer placed his case before the Committee accompanied by representatives of various Associations, and the Committee asked him (Mr. Brittlebank) whether he was prepared to withdraw his opinion. He replied emphatically in the negative, and said that in his opinion the herd was grossly infected, and if the milk was accepted he would not take the responsibility. To cut a long story short, the owner said he would accept the verdict of the tuberculin test as to whether his herd was highly infected or not. In conjunction with a local practitioner, therefore, he tested 49 cows, and there were 47 reactions. The curious part of the case was that on the following morning, eight hours after the inoculation, 22 of the cows were laid out full length in the cowsheds groaning in a most alarming manner. The farmer said they were on the point of death, but they all got better by night. He never saw anything so violent in the way of reactions in his life. He would have, before he had had so much experience, been perfectly prepared for two or three deaths to have occurred, but inside 24 hours the herd had regained the normal state. An interesting point brought out in the testing was as follows. Several of the cows were killed; the farmer and himself became firm friends, and it was agreed that when the cows were killed he should see them slaughtered. He tested several of them several times, and he placed it on record that he had yet to find a cow suffering from advanced tuberculosis that would not react to tuberculin. There was one particular cow which had become a noted animal in the reports made to the Local Government Board. She was tested with tuberculin in the most advanced stages, and she reacted, and reacted early; and when the post-mortem was made, he did not think it would have been possible to have placed a sixpence on any piece of healthy tissue throughout the

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders.		Parasitic Mange.	Sheep Scab.	Swine Fever.	
	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.			Out-breaks	Slaughtered.*
IRELAND. Week ended Aug. 2	...	...	...	...	...	...	Outbreaks ...	1	1	14
Corresponding Week in {	1912 ...	1	1	2	67	...	1	...	4	32
	1911 ...	...	...	...	...	...	1	1	4	77
	1910 ...	...	...	...	...	...	...	3	2	73
Total for 31 weeks, 1913	...	...	...	...	...	...	93	352	98	581
Corresponding period in {	1912 ...	3	3	16	200	...	49	262	161	1421
	1911 ...	6	7	...	...	2	45	246	81	1459
	1910 ...	5	8	...	...	1	43	344	67	1626

† These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Aug. 5, 1913

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

whole serous chain from head to tail. That had been his repeated experience. But the tuberculin had to be a potent tuberculin. If there was any doubt about it, his practice had been never to hesitate to give a double dose. If he had any suspicion of faking, he always gave as much as 7 c.c. of tuberculin instead of 3 or 3½ as the case might be.

Mr. HUGH BEGG, in reply, said he was exceedingly gratified at the very gracious way in which the various speakers had given voice to their ideas. He had been rather hoping that the members would have stopped talking so much about tuberculin and have got on to their experiences, but probably those would come out at future meetings. With regard to the point upon which Mr. BRITTLEBANK and he were in opposition, namely, what portion of milk contained most tubercle bacilli; he supposed the members would be all of the opinion that when one went to milk a cow, her bag had not a quarter of the milk in it that was eventually obtained. He submitted that a cow secreted far more milk during the process of milking than she secreted at any other hour or two hours during the time from her last milking. On that basis he found some probable solution of the discrepancy which existed between Mr. BRITTLEBANK's suggestion and the actual experiments that he himself had conducted. Mr. BRITTLEBANK did not say he had conducted experiments—

Mr. BRITTLEBANK, interposing, said the experiments were conducted by Prof. Delépine.

Mr. BEGG enquired if Prof. Delépine had made specific counts.

Mr. BRITTLEBANK replied in the negative, as far as he knew.

Mr. BEGG said that was the point he wished to make. He submitted that a cow secreted more milk during the process of milking than at any other time, and that probably the last milk was the fresher milk and was not in contact with tuberculous tissue.

Mr. BRITTLEBANK had also said that he had yet to find a cow suffering from advanced tuberculosis that would not react to tuberculin. He must differ from Mr. BRITTLEBANK there, because he had had at least four cows under the new Tuberculosis Order—and he thought he could mention many others—in regard to which he had reported in his preliminary report that the tuberculin test was not reliable. Mr. BRITTLEBANK had referred to the case of a certain county as carrying out the Order very badly, and had mentioned a certain cow having

died in four weeks because a month had elapsed before the disposal. He (Mr. BEGG) thought if the borders of the Order were extended so as to include phthisical patients, coughing up tubercle bacilli, many of those cases would be killed on the spot. He did not at all understand the point about the interference of the police. He could not understand that matter at all. In his county no police went near the cases. When a cow was killed, and he had reason to suspect from the character of the man that he would pay no attention to the notice to disinfect, he might ask the superintendent of the police to tell his sergeant to call there when he was passing to see that there was disinfection.

Mr. TREVOR SPENCER enquired who served the notice of detention in the first instance.

Mr. BEGG replied that he himself did everything in connection with the matter.

Mr. MALE enquired if Mr. BEGG disposed of the carcass himself.

Mr. BEGG replied he always disposed of the carcasses which the meat inspectors thought worthy of being passed. He was surprised to hear that veterinary surgeons in England were opposed to the passing of certain portions of tuberculous carcasses. Surely they all subscribed to the opinions expressed by the Royal Commission. Did any veterinary inspector present mean to say that in the case of localised lesions of tubercle, the whole carcass ought to be condemned?

Mr. MALE asked if Mr. BEGG took the responsibility of selling it, or if he left the responsibility to the local authority.

Mr. BEGG replied that the local authority was responsible for anything he did. It seemed to him that the veterinary profession had the success of the Order in their own hands. If they were going to stand still and not impress it on their local authorities, then the local authorities would take up the attitude of the veterinary inspectors. In the counties where the local authorities were averse to the Order, it was because they had been advised by the veterinary inspector that it was an Order to be averse to. If the Order was not a thing which the profession had been praying for for the last fifteen years, then he was a Dutchman, and if they did not go on and make the Order a success they ought to hide their heads for evermore.

Mr. DUNSTAN then moved a very hearty vote of thanks to the President for his able Presidential address.

Mr. J. CAMERON seconded the motion, which was carried with acclamation. The President returned thanks.

Mr. BRITTLEBANK said he rose with the greatest possible pleasure to move a very hearty vote of thanks to Mr. Begg for attending and opening the discussion on the Tuberculosis Order, and for putting before the members in such a practical manner the whole of his experience.

Mr. GOOCH, in seconding the motion, said Mr. Begg's contribution was hardly an opening of a discussion, it was an elaborate paper upon the practical issues of the Order, and he thought it ought to be named such in the report.

The motion was then put and carried with acclamation. The meeting then terminated.

TREVOR F. SPENCER, Hon. Sec.

Tuberculosis Order, 1913.—Prosecutions.

In the Sheriff Court on 31st July, William John Kerr, cattle dealer, Forfar, appeared on a charge of having contravened the provisions of the Tuberculosis Order (1913) and the Diseases of Animals Act (1894) by having had in his possession, from July 12th to 14th, a cow which was or appeared to be suffering from tuberculosis, of which he failed to inform the police.

The Procurator-Fiscal said that the animal originally belonged to a Kingsmuir man, who gave it away to a local drover to put out of the way, and the latter sold

it to accused for the sum of 10s. When the question of compensation came up after the animal was condemned, Kerr asked the price of £10. Eventually he agreed to take £3, but owing to the advanced state of the disease was only entitled to 30s., which was the minimum compensation. He thought it a case for a smart penalty.

Mr. J. W. Lowson appeared on accused's behalf and stated that accused knew that the cow had been treated for an affection of the throat and had no reason to suppose that the emaciation was due to tuberculosis.

Sheriff Taylor imposed a penalty of £2, with the option of fourteen days' imprisonment.

On Tuesday, Aug. 12th, at Swindon, a Hannington Wick (Wilts) farmer named Russell was fined 30s. for failing to notify that one of his cows suffered from tuberculosis of the udder.

The deputy chief constable said in consequence of tuberculous milk having been received in London, an inspector examined the herd, and defendant was told that he was bound to report the case to the local authority. This was not done, and on July 12 the cow was sold by him. The police traced the animal to a farm at Great Coxwell, in Berkshire. When told he should have reported the matter defendant replied, "Oh, I don't trouble about the Tuberculosis Order, that is all rot. You can do as you like."

Mr. Alexander Dunbar, M.R.C.V.S., a London County Council inspector, said that certain milk which was sent to London was discovered to contain suspended tuberculosis matter, and the contaminated liquid was traced to defendant's farm.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders † (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered.*
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
U.K. BRITAIN.													
Week ended Aug. 9	10		11				3	5	32	42	1	41	632
Corresponding week in	1912		10		3	26	7	7	29	63	4	43	935
	1911	11	15				2	3				45	654
	1910	19	22				8	52			2	17	185
Total for 32 weeks, 1913	361		295				109	288	1849	3747	125	1573	21352
Corresponding period in	1912	545	621		63	410	117	223	2298	5017	170	2114	27531
	1911	537	669		7	420	120	298			306	1659	19355
	1910		925	1121	2	15	225	713			331	927	8424

† Counties affected, animals attacked: Durham 2, Hants 1, London 2.

Board of Agriculture and Fisheries, Aug. 12, 1913.

IRELAND. Week ended Aug. 9		...	...	...	...	...	...	Outbreaks 1	1	5	19
Corresponding Week in {	1912 ...	...	...	...	3	...	...	1	...	6	15
	1911 ...	1	5	...	...	...	...	...	4	3	18
	1910 ...	...	...	...	...	...	...	2	1	2	32
Total for 32 weeks, 1913		...	...	...	...	...	...	94	353	103	600
Corresponding period in {	1912 ...	3	3	16	203	...	...	50	262	167	1436
	1911 ...	7	12	...	...	2	3	45	250	84	1477
	1910 ...	5	8	...	...	1	2	45	345	69	1658

† These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Aug. 11, 1913

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Serum Treatment of Swine Fever.

At the last meeting of the Council of the Royal Agricultural Society, Mr. Mansell said he would like to raise the question of the Society urging on the Board of Agriculture the importance of trying the serum treatment with reference to swine fever. Experiments had been made in Holland, Norway, and other countries, and he believed with considerable success. Seeing that they were making no headway, and were spending enormous sums of money in this country, he thought the Board of Agriculture should be urged to take steps to try the serum treatment.

Mr. Stanier inquired whether Sir John M'Fadyean had gone into the question, or whether he might be asked to do so on behalf of the Society.

Sir John M'Fadyean said he was very well acquainted with the use of serum in the treatment of swine fever, as he had endeavoured to keep himself posted regarding that method of treatment since it was first introduced into the United States a few years ago. He was also pretty fully acquainted with the use of the method in Holland, and with that knowledge he would be very sorry to press upon the Board of Agriculture that they should test the use of serum. The expression was, of course, very vague, but, as he understood it, the recommendation would be that the Board of Agriculture should imitate Holland, where he believed there were no restrictions whatever with regard to swine fever. The person who had swine fever on his premises in Holland could disperse the pigs and spread the disease to twenty other owners. It was all very well to say that each of those owners could considerably reduce his losses by employing serum, but he thought it was well the Council should know that, as an alternative to the method of endeavouring to control and eradicate swine fever, the use of serum could not, in his opinion, be recommended.—*Farm and Home*.

It is of interest to know that on behalf of the largest pig feeders in England, Mr. G. H. Kitchin, M.R.C.V.S., Harrow, has been to Rotterdam to investigate the new serum treatment for swine fever carried on there. We understand he is greatly impressed with the utility of it, and is at present in communication with the Board of Agriculture with a view to its introduction into this country. As swine fever is very prevalent in the Harrow district, a treatment for the prevention and cure of it would be of the greatest importance.—*Meat Trades' Journal*.

Action for Loss of a Mare—Contagion.

At the Ashbourne, Derbyshire, County Court on the 6th inst., before His Honour Judge Alan Macpherson, Richard Howe, farmer, of Fenny Bentley, claimed £20 17s. 6d. from John Edge, farmer, of Kieve-ton, for the loss of a mare, such loss being attributed to the defendant's negligence. Mr. A. Brett supported the claim, and Mr. E. A. Wilkins was for the defence.

Mr. Brett said the defendant owned a stud of horses, and on June 16th one of the stallions served the plaintiff's mare. On the following day the latter animal was noticed to be listless and off its food, and on the 18th Mr. Duckworth, veterinary surgeon, was sent for, and he treated the mare, but she died on the 21st of the same month. A post-mortem was arranged for the 22nd, and defendant was notified of the fact, but he did not attend. Mr. Edge, said Mr. Brett, had previously admitted that this particular stallion was in an unfit condition, and three days before the service he obtained some lotion for it. The loss of the mare was a serious matter for plaintiff, who was a smaller farmer than the defendant, and plaintiff's harvest was delayed.

Mr. T. H. L. Duckworth, M.R.C.V.S., of Ashbourne, described the nature of the disease from which the mare died (septic gonorrhœa), and said the autopsy bore out the diagnosis he had formed. He valued the mare at from £15 to £17.

In reply to Mr. Wilkins, witness said the symptoms of unfitness in the horse would be apparent to the owner.

The plaintiff bore out the details mentioned in Mr. Brett's statement, and said he bought the mare in 1910 for £15, but she was then in poor condition. Defendant told him that there was nothing the matter with the horse, but added that if he had been at home at the time the mare was taken to his farm he would not have allowed it to be served by the stallion. The mare had had two foals since he purchased her, and was worth more than £20 to him.

Richard Howe, jun., stated that he was present at the time of service, when the defendant's horse appeared to him to be all right.

Reginald Salt, of Fenny Bentley, deposed to hearing a conversation between plaintiff and defendant, in the course of which Mr. Edge said there was something the matter with the horse, and plaintiff asked why some medicine had been obtained for it.

In answer to Mr. Wilkins, witness said Mr. Edge did not say that the stallion could be examined.

The defendant was then called, and said he valued the mare at £10. The stallion was all right beyond having sustained a scratch, and this was perfectly clean when the mare was served.

Ralph Warrington, groom, formerly in the employ of Mr. Edge, deposed that the injury to the horse as described by the defendant.

Joseph Dakin, George Etches, John William Wigby, and John Wright spoke to having seen the horse in question, and said it showed no symptoms of disease.

Mr. J. C. Deville, veterinary surgeon, of Uttoxeter, stated that if the horse had had the disease which was alleged, the owner must have been aware of the fact.

Addressing His Honour for the defence, Mr. Wilkins said his client, to be made liable, must have known the horse was unfit for service.

His Honour, in giving judgment, said he was told that the plaintiff had succeeded in establishing the fact that the cause of the mare's death was a result of the service by defendant's horse, and he had not the least doubt that defendant knew, or strongly suspected, that there was something wrong with the stallion before the mare went to be served. That being so, there must be a verdict for the plaintiff.

His Honour then gave judgment for £17 with costs.

The hearing lasted until well into the afternoon, and a large number of farmers and dealers followed the evidence with much interest.

Inspectors of Live Stock.

The President of the Board of Agriculture and Fisheries proposes to appoint two inspectors in connection with the administration of the Board's scheme for the improvement of live stock.

The salaries, exclusive of travelling expenses, will be one of £500 and one of £600 a year, rising in each case by annual increments of £20 to a maximum of £700. Applicants must possess a thorough practical knowledge of stock-breeding.

Applications should be addressed to the Secretary, Board of Agriculture and Fisheries, 3 St. James' Square, S.W., from whom forms can be obtained, and should reach the office of the Board not later than August 18. It is unnecessary for those persons who have already communicated with the Board to renew their applications.—*The Times*.

Vivisection and Veterinary Science.*To the Editor of the Times.*

Sir,—According to the report which appeared in *The Times* of Friday, 8th inst, Professor Harvey Cushing, in the course of an address which he delivered on the previous day to the members of the Congress of Medicine, made the statement that, "Most veterinarians have profited not at all by the advance in general medical knowledge of the past generation," and exclaimed that "It was little wonder that people preferred to have their pets, when in need of surgical care, operated upon in an experimental laboratory rather than in many of the established veterinary hospitals." I hope you will allow me to enter an indignant protest against the public affront which was thus put upon the veterinary profession. Even if it had been true that the majority of veterinary surgeons of the present day are as ignorant as Professor Cushing asserts them to be, the fact would not have furnished any argument in favour of the practice of vivisection with a view to the advancement of medical knowledge. But, Sir, the statement is grotesquely untrue, and it therefore deserves to be denounced as a wanton libel. Professor Cushing is an eminent surgeon, but the references to animal diseases which are contained in his address prove that he does not possess the knowledge which would justify him in sitting in judgment on the present state of veterinary science. With your permission, I will challenge him to bring in support of the view expressed in the sentence quoted above the opinion of any surgeon, physician, or pathologist whose name carries weight in Europe.

The suggestion that people in general prefer to have their pets operated upon by human surgeons needs no refutation. Perhaps, however, Professor Cushing only meant that that was the state of things in Baltimore.—I am, etc.,

J. M'FADYEAN.

Royal Veterinary College, Aug. 9.

Veterinary Inspectors' Fees in Wales

Previous to the last meeting of the Public Health and General Purposes Committee of Carmarthenshire County Council, a private meeting of the veterinary inspectors of the county was held at the Boar's Head Hotel, Carmarthen, when a scale of charges for working the Tuberculosis Order was decided upon. There were present Messrs. J. Campbell Hill, Llanelly; J. F. Rees, Carmarthen; E. Phillio Jenkins, Llandilo; J. Jones, Newcastle Emllyn; T. Williams, Whitland; and Mr. Harries, Pencader.

The scale agreed upon was: First visit, 1/- a mile one way and 7/6 inspection; Tuberculin test 2 guineas up to four animals; Post-mortem examination 10/6; Attendance at fair or market 10/6 for three hours.

This was afterwards submitted to the Public Health Committee and agreed to by them, subject to the approval of the County Council.

Condition of Prince Palatine.

The Press Association is requested by Captain H. B. Purefoy, of Pounds Farm, Lambourn, Berkshire, to publish the following statement by Mr. G. E. King, M.R.C.V.S., who is attending Prince Palatine:—

I certify that I have made an examination of Prince Palatine at Pounds Farm at the request of Captain Purefoy. I find there is distinct evidence of a severe blow upon the near foreleg, which causes lameness. I have further made a careful examination of the horse's heart and other organs and find no suspicion of any disease or trouble whatever.

GEO. EDW. KING, M.R.C.V.S.

The Vineyard, Abingdon, Aug. 2.

MESSRS. NEWTON, CHAMBERS, AND CO'S "IZAL" PUBLICATIONS.

We have received four booklets issued by Messrs. Newton, Chambers, and Co., The Laboratories, Thorncliffe, near Sheffield, manufacturers of the well-known "Izal" disinfectant. The two largest are entitled respectively "The Izal Veterinary Handbook" and "Healthy Poultry"; the third is an account of the uses and value of Izal in the prevention of rinderpest, foot-and-mouth disease, and anthrax; and the fourth deals with "Izal in the Dairy." All will be useful to stock-owners, especially perhaps the two last, which are mainly concerned with the methods of disinfecting buildings, utensils, etc., with Izal, and the second, which also contains some useful elementary general information regarding poultry.

The "Veterinary Handbook," like all such publications, is to a certain extent open to the objection of encouraging veterinary treatment by laymen, but is much less so than some similar works we have seen. It will do much more good than harm, and will be especially useful in showing owners how to limit the spread of infectious diseases. There are, of course, a great many disinfectants in the market, not all of which are of proved value. Izal is one of those the efficacy of which has been proved both in the laboratory and by the test of practical experience; and these booklets, which explain in detail the methods of its employment are bound to be useful.

ARMY VETERINARY SERVICE.Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, Aug. 8.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Lieut. W. Ascott to be Capt. Dated July 11.

August 12.

TERRITORIAL FORCES. ARMY VETERINARY CORPS.

J. Y. Bogue to be Lieut. Dated June 25.

Lieut. F. B. Bennett to be Capt. Dated June 27.

Personal.

ROBERTS.—On Aug. 14th at Beaufort Square, Chesham, the wife of Arnold E. Roberts, M.R.C.V.S., of a daughter.

MR. PANTON, M.R.C.V.S., of Blair Athol, was judging the Highland Pony Classes at the Show of the Perthshire Agricultural Society, on the 2nd inst.

MR. D. MACFARLANE, M.R.C.V.S., Doune, judged the Hackney Class at the Strathearn Agricultural Society Show at Crieff, on Tuesday, 5th inst.

MR. ALEX. JOHNSTON, M.R.C.V.S., Blackbog, Fyvie, obtained a "First" with a Clydesdale mare, at the Garioch Club Show at Insch. on 2nd inst.

MR. R. BRYDON, M.R.C.V.S., Seaham Harbour, obtained eight firsts and eight seconds, chiefly with foals by Bonnie Buchlyvie at the Durham County Agricultural Society Show, at Sunderland. He was successful in the yearling class, and in the two-year-olds.

OBITUARY

C. J. DUNN, M.R.C.V.S., Upper North Street, Poplar. Graduated, Glas: Dec., 1889.

Mr. Dunn died on Saturday, Aug. 9, at St. Bartholomew's Hospital, from uræmia. Aged 44 years.

The Late Mr. W. Anderson.

Mr. Anderson, whose death at Dumfries, at the age of 73, we regret to announce, resided for many years at Hexham, and was well-known for miles round. He was not a native of Hexham, but soon after passing for his degree at Edinburgh, he commenced practice in the town, and in the course of years established a large professional connection in the extensive agricultural area of which Hexham is the centre. In fine weather and in foul, in summer and in winter, his trap was seldom absent from the highways and byways and occupation roads of the country districts, so that few professional men were better known.

Mr. Anderson possessed in a marked degree the "perferdum ingenium Scotorum," and almost invariably talked the Scottish Doric in conversation with his friends. Perhaps this may account for his love of the bagpipes, which he played at concerts and other entertainments in town and country whenever his services were required for a benevolent or charitable purpose. On several occasions he accompanied the late Dr. Bruce when the latter was lecturing on the Northumberland pipes, his performances being illustrative of the differences between the two instruments. He was one of the founders of the Hexham Burns Club, a popular local institution in Hexham for many years. Both English and Scottish admirers of the bard were wont to foregather on the 25th of January, in the Royal Hotel, where the dishes, provided by a Scot, always included the "chieftain of the puddin' race." Sometimes, at these dinners, he would sing a Scots song, occasionally a Latin lyric of his student days, and almost invariably he would play a few tunes on his pipes. Modest and unaffected in his manner, he was a man of strong convictions on some things, and when he had once taken up a mental attitude towards a question he usually remained unshaken by opposing arguments. His two children—a son and daughter—grew up in Hexham, but their mother died some years ago. His daughter is married to a medical practitioner on Tyneside.—*The Evening Chronicle* (Newcastle-on-Tyne).

CORRESPONDENCE.**THE UNRESTRICTED SALE OF TUBERCULIN.**
Sir,

The leading article of *The Farmer and Stockbreeder* dated Aug. 11th, contains the following paragraph:

"Broadly, we are inclined more than ever to the belief that the Government should take steps to control the use of tuberculin. It should not be in the hands of the unskilled, and we use the term relatively as applied to professional men and laymen. It should not be open to any breeder to throw his suspects upon the market without declaration, otherwise the unsuspecting may be trapped. We do not believe in too much interference with the liberty of the subject, but there is such a thing as protecting the unwary and inviting confidence in the cattle business. No surer way to attain this ideal could be taken than by controlling the use of tuberculin so that the test might be used without being abused. Even with the margin of error commonly ascribed to its reactions, it is the only diagnostic that we have, in which respect it is of infinite value."

Also under "Current Notes" we read the following:

"The control of the tuberculin test is, we believe, urgently needed. We might then have a standardised serum and abolish the possibilities underlying the cleansing of herds to the detriment of those who buy in good faith cattle that have reacted."

The only argument of any weight raised against placing restrictions on the sale of tuberculin was that farmers and stockowners might object. Now that this

very widely read and influential agricultural paper has expressed such strong approval, this objection falls to the ground.

Three resolutions in favour have been passed by three very representative meetings of veterinary surgeons, and if these have been forwarded to the proper authorities and are supported by the profession we should look forward to results.

Another reform that is asked for by owners of pedigree stock is the standardisation of tuberculin, and no one will appreciate the need of this more than the veterinarian who has to decide whether an animal is tuberculous or not by means of the tuberculin test, and by that alone.—Yours truly,

Reading, Aug. 13.

G. P. MALE, M.R.C.V.S.

PROF. HARVEY CUSHING ON VETERINARY SCIENCE.

Sir,

In the address in surgery delivered before the Seventeenth International Congress of Medicine by Dr. Harvey Cushing, and reported in *The Lancet* of Aug. 9th, 1913, the following remarkable passage occurs:—

"Though less true of many European countries, where veterinary institutes which are doing admirable progressive work are under Government control in close association with universities, in the United States, and I think the same is true in a measure of Great Britain, most veterinarians have profited not at all by the advance in general medical knowledge of the past generation. This applies particularly to veterinary surgeons who still trust, in the operations which they venture to undertake, to the rough and casual methods of old, with scant if any pretence to the modern refinements of skilful anaesthetisation and aseptic surgical technique. Little wonder that people who are aware of this difference prefer to have their pets, when in need of surgical care, operated upon in an experimental laboratory rather than in many of the established veterinary hospitals. Some years ago, in the surgical laboratory at Johns Hopkins, this work grew to such proportions that a course covering the technique of operative procedure was offered to a group of veterinarians, who there for the first time learned methods which would enable them to save valuable animal lives by procedures which they had considered impossible, and which for the general run of veterinary surgeons had been impossible. [It was during this laboratory course that a woman prominent in the local anti-vivisection circle, who owned a number of cherished and interesting dogs, brought one of them, a valuable bull-terrier, to be operated upon for an extreme vaginal prolapse—one of the complications of whelping incidental to these highly bred pets. The owner was so gratified by the result that the animal and one of its mates were subsequently brought to the laboratory to have their ears pointed and tails docked—a request which of course was refused. Such are the inconsistencies of mankind]."

This is certainly not a compliment to the veterinary profession; fortunately it is not true, but perhaps it can be excused on the ground that the speaker had no knowledge of veterinary science.

This charitable view is reasonable if we refer to another part of the address in which it is stated that Copeman discovered the "bacterial cause of distemper and a successful method of inoculation against this most fatal and distressing canine disease."

The learned Professor cannot be acquainted with the progress of veterinary surgery in the British Isles, whatever he may have been told about the subject in America. I have no doubt that the veterinary press in America will challenge his statements and show up his inaccuracies and prejudiced views, because being Professor of Surgery in Harvard University, one would imagine that he would have made some enquiries before offering such a gratuitous insult to a profession which is represented in his own University.—Yours etc.,

Cork.

E. WALLIS HOARE, F.R.C.V.S.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1311.

AUGUST 23, 1913.

VOL. XXVI.

THE INTERNATIONAL VETERINARY CONGRESS.

We are reminded of the rapid approach of this Congress by the increasing frequency of references to it in Continental veterinary journals. The approximate date of the next meeting of the English Organising Committee, for instance, has just been published by more than one foreign journal. As a matter of fact, the actual meeting of the Congress is now practically a year distant; but the great bulk of its organisation will have to be completed many months in advance, and the most important part of the work will begin in earnest at the next meeting of the Organising Committee early in October. A good influx of new subscribers before that date will immeasurably lighten the responsibilities of the Committee; for we need not point out how greatly their work will be facilitated by a full exchequer. We hope that by next October the Treasurer will be able to announce that he has secured at least the minimum sum necessary for success; and as many of our members have not yet subscribed at all, that can easily be accomplished. One thing that is necessary is that interest in the Congress should increase here as it is increasing abroad.

THE TUBERCULOSIS ORDER.

Practitioners who are at all concerned with bovine tuberculosis, whether they are inspectors or not, will find the recently published discussion of this Order by the Veterinary Inspectors' Association interesting reading. Thanks largely, in all probability, to the line taken by the opener, the discussion was eminently practical and business like. It was a comparison of experience gained in three months working of the Order; its perusal teaches us a great deal of the use and limitations of the measure; and it abounds with suggestions both for the working of the present regulations and for their future extension. At present, the Inspectors' Association has more than justified its existence by holding such a meeting; and similar ones in future, as further experience of the Order is gained, will help to shape the lines of its inevitable modification and extension.

Meanwhile, the Board of Agriculture's returns of the work under the Order in July, which we published a fortnight ago, show how urgently the measure was needed. A few cases have occurred almost everywhere; though not many individual counties can show a large number. But so far it seems clear that, when the Order has been in force a year, it will have removed some thousands of the most infective cattle in the kingdom, and some local authorities have not yet begun to work it in earnest, and owners have not yet learned the need to report. But, in any case, it will be a good beginning.

EPIZOOTIC LYMPHANGITIS AND ITS TREATMENT.

In this article I shall only briefly describe the cause, nature and symptoms of the disease; for a detailed account I would refer the reader to the work by Pallin, where it is well described, my principal object being, to bring to the notice of the profession the results I have obtained in its treatment both preventive and curative.

The disease has been known in countries in the East such as India, China, Japan, for a considerable time, and it is prevalent also in other countries such as the Philippines, Mauritius, Northern Africa and parts of Europe. A few years ago it was introduced into the British Isles from this country, but was successfully dealt with by stamping out.

I think, however, that the conditions there are not so favourable to its spread and development as in other countries.

The disease is one affecting the lymphatic system of the skin and sub-cutis, producing usually well marked symptoms or lesions in the form of pustules (buds), sores or ulcers or both, along the course of lymphatic vessels, which in most cases are more or less thickened or "corded," due to the invasion of these parts of the organism by a "cryptococcus."

Any part of the integument may become affected, but certain parts are more liable, or perhaps more commonly affected, than others; these are the limbs, on the inner parts of the thigh and arm, the reason being, no doubt, that the legs are more liable to wounds from a variety of causes, such as kicks, pricks from thorns and other injuries.

Although the lesions are met with most often in the thigh or arm, I think that the infection has gained entrance lower down, below the knee or hock, and is carried along the lymphatic vessels, which in this situation are smaller and probably not so well supplied with glands, until it reaches a point higher up where it becomes arrested and there propagates. Except in one instance, I have not seen a definite cording of the lymphatics below the knee or hock although there may be one or two small buds or ulcers, the thickness of the skin here no doubt prevents the smaller vessels from showing up.

The thickened or corded condition of the lymphatic vessels and glands is an inflammatory one produced by the presence of the organism. The swollen gland is the pustule or bud which usually bursts and discharges a yellowish pus rich in organisms. In some cases the lesions are associated with a good deal of inflammatory swelling or œdema, to the thickness of an inch with the edges well defined, as in a case of purpura.

The infective nature of the disease is well known to those acquainted with it, but the infection spreads comparatively slowly, and is more or less localised except in a few instances where the disease appears to spread rapidly. A number of buds with intervening corded lymphatics may appear in such cases almost simultaneously, showing that the infection has passed rapidly through the vessels until it was arrested in a group of glands. I have seen cases where the owner stated that the lesions, which were well marked and fairly numerous, had appeared in 48 hours. In an outbreak among 120 transport mules which were inspected daily, lesions in some appeared in 24 hours (unbroken buds) and upon careful examination no wound could be detected by which the organism could have entered. In these cases the infection was not carried by harness, as the animals were in strict quarantine and not being worked.

The infection, if not checked, will spread until it affects almost the whole of the lymphatic system of the skin and underlying parts, and would in all probability produce death from exhaustion or "toxæmia," or both, if the disease were left to run its course. It is stated that the disease sometimes becomes generalized, with lesions in the internal organs, but personally, I have not met with it. From my experience the disease spreads more rapidly in the donkey than in other equines.

Once the infection has obtained a foothold in a stable or other premises it has been a difficult matter to destroy it. I think it probable that the organism is to be found almost anywhere in the soil in some localities under certain conditions, similar to the organism of tetanus; this point, however, requires further observation, and if correct will explain the origin of many cases where the source of infection is obscure. It is, of course, conceivable that localities where the disease has previously existed will be a fruitful source of infection.

The infection in this country (Natal) has confined itself principally to the coastal districts, probably the conditions there favour its growth, though it has occurred further inland as well as at much higher altitudes, but in these places the method in vogue of dealing with the disease—stamping out and quarantine was much more successful.

PREVENTION.

All possible precautions have been taken to prevent the spread of infection when a case occurred on a property, particularly if there were any in-contact animals, and in some places there are many such, as on some of the sugar estates where large numbers of equines, chiefly mules and donkeys are kept.

The procedure briefly is as follows; The infected animal is destroyed and the carcass suitably disposed of. All in-contact material is disinfected or destroyed, harness is immersed in a solution of disinfectant for 24 hours; shafts, poles, swingle-bars are repainted; trek chains are put into a fire for a time, and even the attendants hands are disinfected. The stable is properly treated or destroyed,

but with all these precautions the disease continues to spread.

It appeared to me that there must be some more potent factor conveying the disease, at least in the majority of cases, than any of the objects enumerated, as I have only seen a very few lesions which could be put down as having been directly caused through in-contact material. There is no doubt, however, that infected harness would convey infection should it come in contact with a wound.

I have seen many cases of infection of the brachial and prepectoral glands which at first sight appeared to have become infected from the collar or breast harness, but on examination these were in every case an extension of the disease from below.

I have come to the conclusion that the factor mainly responsible for the spread of infection is flies. It is well known how flies will discover a wound, however small, and as many species—among them the ordinary stable fly—are blood suckers, they make wounds themselves, and it only requires a drop of blood to attract more; the wound is thus enlarged, and suppuration invariably follows. This condition is frequently seen at the back of the knees, where the constant movement prevents or retards healing.

With the object of preventing the attack of flies to wounds, I use a mixture of Stockholm tar and oil. Tar is cheap, a good antiseptic, can be obtained at almost any house in the country, and I know of nothing better to keep away flies.

In areas under quarantine, this treatment of all wounds, no matter the size or how caused, is carried out as one of the conditions of the quarantine notice (Any condition thought desirable can be imposed under the Stock Diseases Act), and all owners of equines, where possible, more particularly those in the vicinity of the outbreak, are advised to use it.

With this preventive treatment the results have been very satisfactory. In twelve months the number of areas in quarantine have been reduced from forty to four. I may state that restrictions are imposed until at least six months have elapsed since the last case.

Previously in these areas an occasional case or more would appear at longer or shorter intervals, thus extending the quarantine. For example, one owner had been under restrictions for three years, and another nearly two years, with the loss of 33 and 27 animals (destroyed) respectively, the cases occurring at intervals of from two to eight weeks. No more cases have taken place at either of these places since the preventive measures have been carried out.

I mention these facts to show that if flies are kept away from wounds the chances of infection are at least brought to a minimum.

TREATMENT.

Epizootic lymphangitis is usually described as being a practically incurable disease, in that no method hitherto adopted has given satisfactory results, and that treatment should only be undertaken in selected cases and under special conditions.

Recoveries have, however, been brought about by treatment with various caustic agents, more or less violent, and surgically by the total extirpation of the affected parts—that is, the lymphatic vessels, glands and the skin covering them. This latter method, in fact both, if a violent caustic is used, are unsatisfactory, for the reason that the resulting wound is severe, takes a long time to heal, and is in constant danger to reinfection. Moreover, such treatment cannot be applied if the area involved is of any size or in the near vicinity of any important structures.

My object was to obtain a treatment that was effective and as simple as possible, and the results obtained, shown in the accompanying table, are, I think, most promising, and would indicate that the disease is not so resistant to treatment as it appeared. Although the number is not large, the results are those of the treatment of 15 consecutive cases.

The buds are opened, preferably with a cross incision, to well expose the interior, and the cavity thoroughly curretted to remove as much as possible of the infection with the instrument. All discharge and *débris* should be put into a strong solution of disinfectant which can afterwards be dis-

posed of. The exposed surface is then filled with crystals of Permanganate of potash, each bud being treated similarly. The ulcers as a rule have no cavity, and require only to be well scraped with the scalpel and the crystals applied. If the lymphatic vessels are much thickened, and this is sometimes irregular, they are opened at the thickest part and treated in a like manner, but unless they appear to contain pus it does not seem necessary to interfere with them, as they usually disappear. Some cases, however, require more frequent inspection than others, and any fresh buds that appear are treated as required.

It is not advisable to wait until the bud comes to a head before treating as this only delays matters. If a nodule is detected in the process of formation it should be cut down upon and treated or removed, as this lessens the amount of infection to be dealt with.

In those cases where the lesions are accompanied by an inflammatory œdema, a little Arsenic, Iodine, and Resin is given, as I think it helps to disperse the swelling, though in simple cases this is unnecessary.

There is sometimes a good deal of hæmorrhage from the part operated upon, but I have found the

DETAILS OF CASES OF LYMPHANGITIS TREATED.

Subject and Lesions.	Treated.	Remarks.
1. Donkey stallion. Buds and ulcers on prepuce, abdomen and inside thighs.	1912. Sept. 11	A simple case.
2. Four cases among a span of donkeys. Lesions on both fore and hind legs (thighs and arms), also on abdomen and chest.	Oct. 10	Two of those cases were somewhat severe with much thickened lymphatics.
3. Horse. Numerous lesions (advanced) covering the whole of one fore arm and extending through the axilla into the brachial and pre-scapular glands, which was the size of a cocoanut.	Nov. 30	* A severe case which in four days was rapidly spreading in the other limb.
4. Horse. Lesions on side of chest and abdomen associated with much inflammatory swelling.	1913. Jan. 18.	Severe case, swelling extending from brisket to near sheath. Treated a second time. Lesions all healed, but subject died of horse sickness.
5. Horse. Lesions extending from the near eye over the masseter muscle into the submaxillary space involving the gland, thence down the jugular furrow to near the shoulder. Cording of the lymphatic vessels was well marked down the furrow.	Jan. 18.	Not severe, except the masseter muscle, where the lesions were diffuse.
6. Horse. Buds and ulcers with corded lymphatics and associated with inflammatory swelling on the near ribs.	April 18	A severe case: treated twice.
7. Mule. One lesion, an ulcer on near side.	May 9.	Simple case. Subject died later of horse sickness.
8. Mule. Buds and ulcers on chest and ribs extending down one fore leg and posteriorly over the abdomen to near the mammary gland.	„	A severe case, with much lymphatic swelling, wounds all healed, but subject later died of horse sickness.
9. Horse. Unbroken buds on both fore arms extending through the axillæ and over the shoulder joints, with a few lesions on the ribs of one side.	„	A severe case, 25 places treated.
10. Donkey. Buds and ulcers inside one thigh.	May 29.	A simple case.
11. Donkey. Lesions inside one arm and thigh with corded lymphatics.	„	Not severe, but secondary lesions were treated again on June 16.
12. Donkey. Buds and ulcers with corded lymphatics extending from the hock to the groin, also inside one arm through the axilla and over the shoulder joint.	June 16.	A severe case associated with much cording of the lymphatic vessels.

Total treated, 15. Cured, 14: Destroyed, 1.

* Destroyed.

Permanganate to act as an excellent styptic. The parts around the wounds are then dressed with the tar and oil, in the proportion of one of tar to four or five of oil. Castor oil is best, as it adheres better and thus only requires renewing every two or three days. If used in stronger proportions the tar will excoriate the skin and remove the hair. The subject is isolated and later treatment that may be necessary is carried out as before, though in most cases nothing more is required, and the wounds heal in from two to three weeks.

It is hardly necessary to add that if a number of places have to be treated, the subject should be cast and well secured. There does not appear to be any recurrence of infection after the wounds have all properly healed, as the first case treated by the writer was twelve months ago, and to-day the animal is healthy and regularly working.

The permanganate stains the hands a good deal, but this can be removed with pumice stone or a solution of oxalic acid. An interesting feature is the amount of heat generated by the oxidation of the salt; I have not had an opportunity of recording the amount, but it is uncomfortably hot to the fingers.

In all the cases shown in the table the disease was verified by microscopical examination. The method of staining the smears was the process used by Mr. Goulé, Government Veterinary Surgeon, Natal, which is rapid and gives excellent results. It is applied as follows: A few drops of a saturated alcoholic solution of Gentian violet are placed upon the smear with an equal quantity of water. Staining is complete in three minutes, wash, dry, and examine as usual.

A. F. HARBER,
Government Veterinary Surgeon

Durban, Natal.

TWO CASES OF PENTASTOMUM TÆNIODES.

The supposed comparative rarity of the occurrence of this parasite in the nasal chambers of dogs in Great Britain, has induced me to record these two cases that have come under my notice. I think that it may be found that it is not so rare in this country as some authorities would have us believe,

Hutyra and Marek in Vol. ii. (p. 25) state "the adult parasite is found preferably among the dogs of butchers, shepherds and hunters; it is found very rarely among other dogs, *not at all among pet house dogs*."

The first case, which came under my notice some few years ago, was in a bulldog of my own. The usual symptoms of sneezing, etc. were observed, and on examining the nostrils, a body was seen, which at first sight looked like a cotton thread. On being withdrawn it proved to be an excellent specimen of this parasite. A smear of the nasal discharge on microscopic examination, showed the ova of this parasite in large numbers. The treatment advocated by "authorities" of injecting into the nose by means of a syringe various solutions

such as boracic acid and vapours of chloroform, etc., proved to be quite useless. At length, a solution of common salt in water (one teaspoonful of salt to 3-4 tablespoonfuls of water) was injected up the nostrils, the dog's head being held up during the procedure. The result was a complete cure.

The second case occurred only last week, and is of interest on account of the fact, that the authorities just quoted, stated that it does not occur at all among pet house dogs. A client brought a specimen of this parasite which he had taken from the nose of his toy Yorkshire terrier, and he stated that this was the second one that he had removed. The treatment that proved successful in the first case has been advised.

It was only in the July 26 number of this paper that Mr. Tudor Hughes recorded a case of this parasite as occurring in the nasal cavity of an otter hound, and as he gave briefly the life history of the parasite then, I do not propose to add any remarks with regard to this.

J. F. D. TUTT, Class D.

R. V. C., London.

NORTH OF IRELAND VETERINARY MEDICAL ASSOCIATION.

A general meeting was held at 7, North Street, Belfast, on Thursday, the 26th June, when the chair was occupied by the President, Mr. J. A. Jordan, M.R.C.V.S., City Veterinarian, Belfast. Others present were Messrs. John Loughran, J.P., Aughnacloy; W. C. M. Smith, Newry; John Kernohan, J.P., Ballymena; A. M. Crichton, Lisburn; J. A. Gault, Ballymoney; Howard M'Connell, Armagh; John M'Lean, J. Ewing Johnston, and F. W. Emery, Belfast.

On the motion of Mr. Loughran, seconded by Mr. Smith, the minutes of the last meeting were taken as read.

Apologies for inability to attend were received from Capt. Hodgkins, Alexr. Monro, James Gregg, John McAleer, John A. Thompson, J.P., and J. J. Ross.

THE NEW TUBERCULOSIS ORDER.

Opening by HOWARD M'CONNELL, M.R.C.V.S., Armagh,

Mr. M'CONNELL, who was very heartily received opened his remarks by saying that the new Order was most comprehensive and far-reaching, and one through which the members of the veterinary profession were afforded a great opportunity of manifesting their usefulness to the community. The Department of Agriculture had arranged for veterinary surgeons, who held inspectorships, to attend Dublin, where they were received by the Chief Inspector of the Veterinary Branch—D. S. Prentice, Esq.—who gave a very clear and able exposition of the Order, and answered any questions put to him by those present. The Order is of a compulsory character, and deals with two forms of tuberculosis only, viz., (1) tuberculosis of the udder, and (2) tuberculosis with emaciation; all other forms of the disease being excluded from its scope.

Any person having an animal coming under either of these classifications must report the fact to the police of the district wherein the animal is, the police transmitting all such information to the local authority who, in their turn, must inform the Department and also the sanitary authority, if they are not themselves acting as such.

The owner of an affected or suspected animal must forthwith have it isolated, and if it be a milch cow the milk must not be mixed with that from other cows or used for any purpose until it has been thoroughly sterilised, and all utensils used must be effectively cleansed with boiling water before being again used for milk.

It will be observed that it now becomes obligatory on a veterinary surgeon to report any instance of an animal, coming within the scope of the Order, that may come under his observation, and for each such report he must be paid the sum of two shillings and sixpence. It will be well to remember that the V.S. is not called upon to report to the police but direct to the local authority, who, upon the receipt of such report, must act as if the information had been conveyed to them by the police.

The next procedure is for the local authority to arrange for such veterinary examination as may be necessary to ascertain whether or not any cow upon the premises from which the report has been received is suffering from tuberculosis of the udder, or whether or not any bovine animal thereon is suffering from tuberculosis with emaciation. For this purpose the veterinary inspector may use the tuberculin test if he receives the consent in writing of the owner, but not otherwise.

For the purpose of examination an inspector may take samples of milk, faeces, urine, or any abnormal discharge from any bovine animal on the premises where the disease is reported from.

Having completed his examination, the veterinary inspector must furnish his report to the local authority and to the Department, and the local authority, if not themselves the sanitary authority, shall send a copy of the report to that authority.

Now, if the inspector's report confirms the existence of the disease as coming under the classification already referred to, arrangements have to be made for slaughter; but if the owner gives notice in writing that he objects to this course, further action must be delayed until the sanction of the Department is obtained, and no special authority will be given if the animal in question is valued at over £30 if, and so long as, the animal is detained and isolated and the milk, if any, dealt with in accordance with the regulations.

Special provision is made to avoid interference with the powers possessed by the sanitary authority under Section 18 of the Tuberculosis Prevention (Ireland) Act, 1908. The valuation of animals intended for slaughter appears to be a complicated procedure. The valuation can be agreed upon between the local authority and the owner of the animal, the value to be estimated on the general condition it presents at the time. But should they fail to agree, a valuer must be appointed by the local authority, or, on their application, by the Department.

In ascertaining the value of an animal due regard must be given to any Act, Order, or regulation dealing with the sale or use of milk, milk products, or carcasses for human food.

Two valuations have to be made, one on the basis that the animals will be found tuberculous, and the other on the basis that evidence of the existence of the disease will not be revealed. It will therefore be seen that a post-mortem examination becomes a necessity, and it should be of the most careful and searching character, as the amount of compensation payable to the owner will be regulated by the certificate given as a result of the autopsy. Should the local authority fail to carry out the examination, or if the certificate of such examination does not show that the animal was suffering from tuberculosis, compensation equal to the value of the animal as agreed upon, with the addition of one pound, must be paid. If, however, the certificate of the examination shows that the animal was suffering from tuberculosis (not being advanced tuber-

culosis) three-fourths of the value of the animal, as agreed upon, or certified for, shall be paid, but certain amounts are to be deducted, such as one-half the cost of any valuer appointed, or of any veterinary surgeon employed if other than the veterinary inspector. If the certificate of the examination shows that the animal was suffering from advanced tuberculosis, then the compensation payable will be one-fourth the value agreed upon, or certified for, or the sum of 30s., whichever sum is the greater, but half the cost of valuation and examination can, under certain circumstances, be deducted by the local authority.

The Order clearly defines the conditions which, if found on post-mortem examination, shall constitute advanced tuberculosis.

There are other provisions dealing with cases detected in fairs, markets, railways, inspection yards, isolation, disinfection, etc., but they are definite and appear to present no difficulties.

In conclusion, Mr. M'Connell instanced a few cases that had been reported to him; the first was a valuable bull that had reacted to the tuberculin test, but could not by any stretch of the imagination be looked upon as a case of tuberculosis with emaciation; his only duty therefore was to explain to the owner that it was not a case coming within the regulations; the second case was that of a cow suffering from a cancerous condition of the mammary gland, and the next, a cow with a normal udder but with a somewhat elevated temperature. He trusted that the members of the profession would do their best to carry out the duties efficiently and without any undue regard to their own pecuniary advantage.

Mr. CRIGHTON said the Order was one of the most important and far-reaching that had been promulgated for some time, and he foresaw a great amount of difficult and trying work for those entrusted with the discharge of the various duties it imposed. He did not think they should undertake the work in any philanthropic spirit; the duties were important and directed towards the benefit of the community, and he therefore thought, that as the labourer was worthy of his hire, we, as a profession, need not hesitate to see that we were adequately remunerated for the time and trouble taken up in connection with this all-important duty.

The discussion was very ably continued by Messrs. Loughran, Gault, Kernohan, Smith, M'Lean, Johnson, and the President, who specially thanked Mr. M'Connell for his very valuable contribution to the subject.

PRESIDENTIAL ADDRESS.

Mr. J. A. JORDAN, M.R.C.V.S., Belfast.

Gentlemen,—In the first place, allow me to express my deep and heartfelt gratitude for the honour you have done me in electing me your President for the year. I can assure you the honour was unexpected, and I feel certain that you might have made a much better selection. However, I shall do my best, and I hope I may be able to carry out the duties of the office as well as my predecessors have done. The success of an Association such as this largely depends on the interest taken in it by the members. I would therefore appeal to you to attend all our meetings and enter whole-heartedly into our discussions. When the time comes for me to vacate the chair I trust that the Association will be nothing the worse, and that you will have no cause to regret the confidence you have placed in me.

I am pleased to know that I will have the assistance of such an able Secretary. To my mind there is no office in any Association which carries greater responsibility than the Secretary. It is not as a rule a much sought after position; indeed, it is often a very difficult matter to secure a proper person able and willing to take the position. I wish therefore to offer you my congratu-

lations on your choice. In Mr. Emery you have a man endowed with gifts of a very superior order, which I feel assured he will use for the furtherance of this Association's interest and for the unholding of the dignity of the profession. We are bound to prosper under his secretarial ability. He will no doubt need your assistance, for I am, from my own personal experience, quite aware of the many difficulties in which secretaries are frequently placed. Papers are difficult to secure and it is always up to your Secretary to furnish you with something for discussion, therefore every member should endeavour to bring forward something of practical interest for discussion.

Before offering you a few remarks on matters of everyday interest, I would wish for a few moments to refer to the much lamented death of a member of this Association, one we could ill afford to lose. I refer to the late Mr. Matthew Hedley. By his decease the profession in Ireland is very much the poorer. His loss will be keenly felt, especially by all those who had the pleasure of coming in contact with him whether in private or in the performance of public duties. He was broadminded, far-seeing, generous, thoughtful, and above all a worker. He gave ungrudgingly of his services in the interest of his profession. The recent outbreak of foot-and-mouth disease greatly added to his work, and his life was undoubtedly shortened by his untiring devotion to duty. His memory will long linger with his colleagues and with none more so than myself. I have lost in him a friend who was every ready to help me with his counsel and advice. His works both inside and outside the profession will remain as a memorial to him.

I would also wish to refer to an immensely popular and pleasing feature of the year, viz., the conferring of a knighthood on Mr. Stewart Stockman, Chief Veterinary Officer to the Board of Agriculture and Fisheries. I am sure we are all pleased at such an honour being conferred on a member of our profession, and wish Sir Stewart many happy years to enjoy his distinguished honour.

Very little of moment has happened in matters politic during the past year.

The amalgamation of Veterinary Societies—after a very chequered career—is, I am pleased to say, an accomplished fact. Dr. Bradley and Prof. Gofton are to be admired for the plucky manner in which they undertook this task, and they are to be congratulated on the success which has crowned their efforts. In the reconstructed "National" I feel we have a machine which, if carefully manipulated and kept running smoothly, should do an immense amount of very useful work to advance the interests of our profession. Much good can be accomplished by combined action. If we wish to succeed we must unite and agitate.

The Veterinary Surgeons Act Amendment Bill still awaits Parliamentary sanction. Let us hope that when that is granted we will hear no more about the financial difficulties of our College. It is to be regretted that the passage of this Bill through Parliament has been so protracted, for no doubt money is urgently required.

I am pleased to learn that a Special Committee of Council has been appointed to consider a scheme whereby the Fellowship Examination might be revised. This to my mind is a decided step in the right direction. If the Fellowship Examination was split up into different branches it would then be possible for men to gain their "Fellowship" in their own special branch of work. A considerable number of our members are engaged in Public Health and Departmental duties. These men should surely have an opportunity of gaining their "Fellowship" in their own particular branch.

As you are all aware, the vexed question of the control of tuberculosis has been exercising the minds of our legislators for a considerable time past. They have

at last decided that the disease should be scheduled and brought under the operations of the Diseases of Animals Act. Accordingly, the Department of Agriculture and Technical Instruction for Ireland has now issued their Tuberculosis Order, 1913. This Order I consider to be the most important one that the members of this profession have had to deal with for some considerable time. It has given the profession the opportunity of demonstrating to the general public that they, and they only, are the proper persons to have control of the diseases of animals. A great deal of course depends on the manner in which the provisions of this Order are carried out by those who are entrusted with the work. Their actions will be watched very closely by certain members of the sister profession, who will not be slow to grasp any opportunity whereby the work of final diagnosis may be passed over to them. Very little time has been given to make the necessary arrangements for carrying out such an important and far-reaching Order, but I have every confidence that the members of the profession will rise to the occasion and give a good account of themselves.

The year 1914 should be a memorable one to the members of the profession in these Islands, for it is then that the International Veterinary Congress will hold their annual meeting in London. This should be taken by every member of the profession as a compliment. Those responsible are naturally anxious that they should know as soon as possible what amount of money they are likely to get. I understand that something like £3000 will be required to run this important undertaking and to entertain our guests in anything approaching the style the delegates from these Islands have been treated, when attending similar functions in other parts of the world. I feel sure it is the wish of every Irish veterinary surgeon, whether he hails from the north, south, east, or west, to reciprocate that hospitality in a manner befitting what it pleases strangers to call us—"the most hospitable people in the world."

As an Association we have already subscribed to the funds, but I wish to-night to appeal to each individual member to try and give a something, no matter how little, to help to swell the funds. It is not necessary that you should give your subscription just right away. All that is wanted at present is your name and the amount you intend to subscribe. I shall certainly do what I can, and I have no fear a single member of this Association will be behind.

Just while I am in this strain I would wish to say a word or two regarding the Victoria Veterinary Benevolent Fund. I understand that funds are urgently required in order to carry on the good work of relieving distress, and I would therefore appeal to one and all to give as liberally to this most deserving fund as possible. The objects of this Fund are to assist those members of our profession who—more often than not from circumstances over which they have no control—have fallen upon evil days. It is also assists the widows and orphans of our deceased brethren in so far as its funds allow. None of us know what is in store for us or ours. Perhaps it is just as well. Let us therefore do unto others as we would wish that they should unto us. It certainly is a charity that should be supported.

I hope to be excused to-night for not referring at any length to the recent outbreak of disease amongst cattle in this county, which, as you are all aware, caused great financial loss. Some experts had no hesitation in pronouncing it foot-and-mouth disease; others of a very high scientific standard were not quite so bold, and contented themselves by calling it pseudo foot-and-mouth disease, whilst others, still more careful, only got the length of calling it "dirty mouth." Now, gentlemen, no matter what it was, it has gone, and gone as rapidly and as mysteriously as it appeared. I am sure we are all delighted, and now that it is gone the sooner

we get the dirty taste out of our mouths the better. I do not think there is anything to be gained in dwelling on the subject.

Allow me to thank you for your attention, and to express once more my appreciation of your kindness in electing me as President. I sincerely trust that the success which has followed this important Association may continue, and that our deliberations may serve to advance the interests of the profession to which we are all proud to belong.

Mr. EMERY proposed a very hearty vote of thanks to the President for his able and interesting address, and in doing so remarked that custom necessitated the passing of Presidential addresses without offering criticism, otherwise there were points dealt with by Mr. Jordan about which he might have had something to say. However, whether or not he agreed with certain questions that had been raised, he fully acknowledged the address was an able and interesting one; he offered his sincere congratulations.

Mr. LOUGHRAN, in seconding, thanked Mr. Jordan for his most interesting and instructive address. Carried by acclamation.

At this stage Mr. J. Ewing Johnson stated that he had been informed that, through the kind offices of our President, the Markets Committee of the Belfast Corporation had expressed their willingness to allow future meetings of this Association to be held at the premises of the new City Abattoir, and it was for the members to say whether or not they would accept the generous offer of this very attractive accommodation.

Mr. M'CONNELL, in proposing the acceptance of the very generous offer, said he thought such a desirable meeting place would render our meetings much more attractive in future, and act as a great incentive to a better attendance, and he had great pleasure in moving that a most hearty vote of thanks be passed to the Committee for their kindness. This was seconded by Mr. J. E. Johnson, and passed by acclamation.

The following very interesting case was then brought forward by Mr. A. M. Crighton, M.R.C.V.S., Lisburn.

PYOGENIC FEVER ASSOCIATED WITH MULTIPLE ABSCESES.

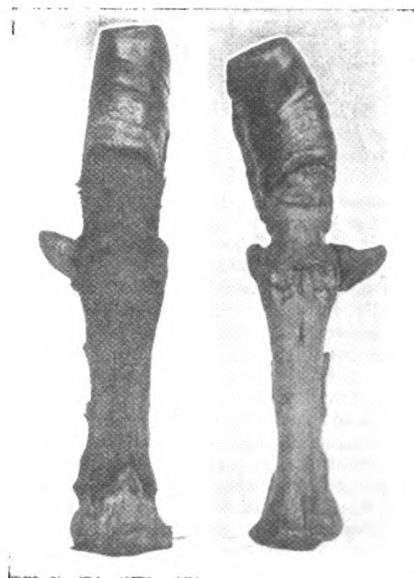
On the 28th May last I was called to attend a very valuable thoroughbred foal, aged one month. After enquiry and a very careful examination, I concluded that my patient was suffering from pyogenic fever. Abscesses had formed above and below the left eye, the usual febrile conditions obtained, and diarrhoea prevailed. I gave the necessary instructions for careful nursing, and prescribed small doses of Pulv. rhei et mag. carb. levis to be given three times daily in a little of the mother's milk. The abscesses, having matured, were lanced and the contents evacuated, the cavities were then syringed out twice daily with a suitable antiseptic solution. On my next visit I found other abscesses ready for opening. Diarrhoea still marked. I turned my attention to the dam and ordered a complete change of dietary, this was done on five or six occasions. I also treated her medicinally, prescribing, from time to time, Pot. chlor., Mag. sulph., Soda sulph., Soda hyposulphate, etc., but little improvement resulted. Turning to the foal, I tried Tenalbin in small doses three times daily. I saw a little improvement under this treatment. At each visit I found additional abscesses ready for opening, while there was evidence of others forming. The foal continued to drink, and, all things considered, remained in fair condition.

With the good weather, and under apparent favourable conditions, I ordered mare and foal to be put out to grass, and to my delight matters began to improve; the diarrhoea gradually subsided, and the foal soon presented a more healthy appearance, but on Saturday last I

opened the fourteenth abscess: this was situated right in front of the sternum, and the contents were of a similar character to that discharged from others. The abscesses were situated over the head on both sides, submaxillary glands, parotid glands, down the neck, even the upper and lower eyelids were affected. I shall be glad to have the opinion of members who have dealt with similar cases. Has any member tried "Streptocine" for this affection?

Mr. SMITH said he had had somewhat similar cases in which he adopted the usual treatment and careful nursing, with very satisfactory results.

Mr. JOHNSON considered this a case in which serum-therapy treatment was clearly indicated.



ABNORMAL PHALANGES IN A COW.

The President exhibited several excellent photographs of abnormalities and pathological conditions which had come under his observation from time to time. One photo presented the two forelegs of a cow, terminating in single digits. This was considered

unique, and in explanation Mr. Jordan said, it will be seen that in general conformation and appearance the feet closely resemble those of the horse, and in order to show that it is not only the horny hooves that are single, I have had a hoof removed, thus exhibiting the pedis, corona, and suffraginis, all of which are single with single articulations.

The subject was an aged cow in good condition, and was purchased in the Dublin cattle markets by a Belfast butcher and brought for slaughter in the usual way to the public slaughterhouse here.

The usual complimentary votes brought a very interesting meeting to a close.

F. W. EMERY, for Hon. Sec.

EASTERN COUNTIES VETERINARY MEDICAL SOCIETY.

STERILITY IN THE MARE.*

By A. F. CASTLE, M.R.C.V.S., Ipswich.

[ABSTRACT].

The immense importance of this subject has long been realised by the veterinary profession and others interested in the breeding of horses, especially thoroughbred stock. According to the General Stud Book, about 42 per cent. of English thoroughbred mares fail to produce foals annually, in spite of having every possible attention. This necessarily entails a great loss to the breeder, for when one considers that a large number of thoroughbred horses of fashionable blood are standing at fees from one to two hundred guineas, and, in exceptional cases, three, and even five hundred guineas, some idea may be formed as to the resulting loss to the owner, and in addition to the service fees there are the usual expenses incidental to the upkeep of the stud.

Sterility may be occasioned through structural or functional derangement or defect of the generative organs, and may be either temporary or permanent.

Age for Breeding. Very often two-year-old fillies are sent to the stud if they have been a disappointment whilst in training, or have badly "broken down," and possess exceptional blood lines. But fillies of this age are far too young for breeding purposes. It is often the procedure of breeders to put a filly that is slack in the loin to a horse, with the idea of causing a dropping of the flank and thus rendering this deficiency less noticeable; this applies more to the heavy breeds.

In breeding thoroughbreds, the third foal produced is often the best, and it has been found that the classical races are most often won by the third foal. When the mare has attained the age of five years she is generally considered at her best for breeding purposes.

When one wishes to determine the cause of sterility in any individual mare, one primarily notices the general condition of the mare, and then proceeds to examine the generative organs. For the thorough examination a vaginal speculum is necessary, and the most convenient pattern is that devised by Polansky. Before conducting such an examination, it is of great assistance if one can obtain information whether the mare has had a foal, or how many seasons she has been at the stud. If the mare has bred a foal, it is advisable to know when the foal was born, whether the mare is regular in coming in season, whether she was injured last foaling, and if she carried the foal the full period of gestation or not.

One then proceeds to examine. The perineum may be torn or ruptured, and thus the faeces may be passed through the lips of the vulva instead of normally per anum. In some cases the roof of the vagina has been

so badly lacerated during parturition that the rectum is directly connected with the vagina. One also notices any evidence of a discharge; it may be limited to a small collection of mucus, hanging from the vulva or dried around the lips. The whole of the skin on the inside of the thighs down to the caps of the hocks may be denuded of hair as a result of the irritation produced by the dribbling of an acid discharge. The hair in the tail or the undersurface of the dock may furnish evidence of a recent discharge.

Use of the Speculum. It is always advisable to procure the best light; if the sun is shining, one may arrange the mare so that the sun strikes directly into the vagina. If it is too dull to examine the interior with the unaided eye, one may use an electric torch. The os uteri is normally contracted, except at parturition or at time of oestrus, when it may be slightly relaxed. Relaxation of the cervix can be brought about by applying belladonna, or any similar sedative, to the whole of the cervix, or one can use hot water.

In examining the vagina and uterus one notices the following: The colour of the mucous membrane—the normal colour is a pinkish shade—which in diseased condition may be yellow, slaty blue, or greyish in colour. The presence of any discharge adhering to the walls or lying on the floor of the vagina or uterus. The condition of the os uteri, whether relaxed, firmly contracted, ulcerated, congested, inflamed, or presenting any other abnormality as flexion, laceration, or occlusion, etc. The presence of tumours, polypi, or abscess formation in the vagina or womb; false membranes closing the os, or hanging from any surface of the vagina or womb; any indication of laceration.

The term "split mare" is applied to those mares possessing a badly lacerated os, usually the result of a serious foaling, in which forcible extraction has been employed, or unskilful interference permitted—the laceration may vary in degree from a slightly torn edge to a tear on either side of the os, extending laterally for some inches, rendering the os chronically patent.

The causes of sterility may primarily be divided into Temporary and Permanent conditions.

Temporary. Those functional and structural diseases that are amenable to treatment, or which can be overcome by surgical interference, as in acute congestion or hyperæmia of the os, acute and subacute inflammation of the uterus; occlusion of the os uteri with false membranes, or tumours or polypi that can be surgically removed; catarrhal and inflammatory conditions of uterus and vagina that are curable; nymphomania (some forms); diminished sexual impulse; occlusion or spasm of os uteri; deviation or misplacement of os; chronic endometritis, as complication to parturition or epizootic abortion.

Permanent. 1. Chronic inflammatory condition of the ovaries, vagina, or uterus.

2. Some diseases of peritoneum associated with the formation of growths, thus rendering the escape of ova from fallopian tube impossible.

3. Absence of ovaries, formation of growths in substance of ovary, cystic ovary, nymphomania, chronic inflammatory conditions.

4. Lacerated os uteri, causing non-retention.

5. Inoperable tumours in wall of uterus or vagina.

DISEASES OF OVARY AND FALLOPIAN TUBES.

All the diseased conditions of the ovary and fallopian tubes are purely surgical, no medicinal treatment is of any avail. The great majority of these conditions are undiagnosable during life.

The ovaries are rarely removed unless the mare is a nymphomaniac, or the presence of cysts has been demonstrated by rectal examination. Cysts in this organ

* Read at the meeting at Ipswich on July 24 (p. 93).

are so large at times that they are readily broken by pressure per rectum.

Nymphomaniac mares are constantly in season, and are often confirmed kickers. But this condition more often calls for attention in harness mares than any others. When diseased conditions of the ovaries or fallopian tubes are diagnosed in the brood mare, she is usually at once discarded for breeding purposes.

The diagnosis is seldom satisfactory, and can usually only be formed after eliminating all other diseased conditions that can account for the sterility. But when a mare has been at stud for three or four years, and has been mated with a liable foal-getter, and the mare is constantly in œstrum, and no demonstrable cause can be found, it is usually safely assumed that the ovary or its tube are affected, and the mare is removed from the stud. Nymphomania is often caused by chronic metritis, or the presence of growths in the uterus or vagina.

DISEASES OF THE UTERUS.

Tumours or Polypi. The presence of a tumour or polypus is often discernable on introduction of the vaginal speculum. In some cases the only symptoms are a thick, tenacious discharge from the vulva, and the constant manifestation of œstrum.

The extent and situation of the growth can in some cases be determined on rectal exploration.

If the growth possesses a constricted neck or pedicle, it may be possible to effect its removal either by ligature or écraseur, but if the base is diffuse, it may be unwise to attempt removal; in the latter case the mare is useless for breeding purposes. Should total extirpation be practised it is advisable to well douche the interior of the uterus in order to remove blood clots or other accumulation that may have collected during the operation, but if there is any tendency to hæmorrhage it is advisable to delay irrigation.

Metritis. Catarrh or inflammation of the uterus is a frequent cause of sterility in the mare. It is often a sequel to acute inflammation arising from injury during difficult parturition. It often arises from prolonged retention of a portion of the foetal membranes, also as a sequel to the return of the uterus after eversion. It is a common sequel to sporadic and contagious abortion. Leucorrhœa is a chronic form of inflammation of the uterus. But there are a large number of cases of chronic metritis that are not readily accounted for which may be the result of low nutritive processes in the uterus.

The character and quantity of the discharge is subject to great variation. It may be thick, tenacious, muco-purulent, or it may be thin and watery, containing suspended particles of pus and mucus.

The quantity of inflammatory fluid varies in different forms of the disease, but in all cases this must be removed by a syphon or a syringe. A Reed's pump is very useful in these cases.

Treatment. In some chronic forms, a course of tonic medicine, including Nux vomica, Ferri sulph., Aloes, Gentian, etc., conjoined with good feeding and daily irrigation of the uterus with an antiseptic and astringent solution may be the only treatment required. In all chronic inflammatory conditions of the uterus and vagina a run at grass is always beneficial.

The selection of the disinfectant must be varied to suit the individual cases. I have secured the best results with the following—Aniodol, Chinisol, Protargol, Sodium bicarb., Lysol, Pot. permanganate, Ac. carbolic, Ac. boric, Zinci sulph. Practically all the disinfectants and mild astringents have been used for uterine irrigation. Where the quantity of discharge is very abundant, a weak solution of Sulphate of zinc with Alum or Plumbi acet. usually gives good results. Aniodol is one of the best uterine disinfectants. Chinisol must be used very dilute, for if in too strong a

solution, symptoms of straining and uneasiness are manifested.

In all these cases I have found a vulcanite tube about eighteen inches in length, attached to a pump or syringe to be the most suitable. The tube is perforated throughout its length, so that with a forcible supply of water the whole lining membrane is sprayed.

Leucorrhœa. This is one of the chronic inflammations of the glands of the uterus, and often of the vagina. The discharge is usually thin and milky-looking, or thick and presenting a starchy appearance. Usually odourless; it may be purulent, muco-purulent, or brown-coloured; it is very often intermittent. The only external evidence of the disease may be the collection of a small quantity of discharge, adherent to the lips of the vulva or collected at the lower commissure. The mare may not, but usually does, suffer constitutionally as a result of this disease. It is most commonly found affecting aged mares, and those that have been barren for some years. In some cases the inflammatory condition appears to be limited to the cervix and vagina, and is usually seen after the inflammation of the uterus has subsided. When the uterus and vagina are affected, the whole of the organs appear to be in a relaxed state, and the os uteri may be dilated. The lining mucous membrane of the uterus and vagina may be greyish or yellowish in appearance.

On introduction of the speculum, the condition is usually readily diagnosed, the "ballooned" condition of the vagina with the relaxed os immediately attracts one's attention, and the accumulation of whitish, thick discharge is usually present.

Treatment. This must be very energetic, and even then the trouble tends to be very obstinate. Many old standing cases appear to defy treatment and relapses constantly occur. Warm injections of Zinc sulphate and Alum or Tannic acid once or twice daily may be persisted with for a time, and then varied with cold injections. Solutions of the following may be tried:—Silver nitrate, Ac. carbolic, Izal, Aniodol, Salicylic acid, Condy's Fluid. Internally, tonics may be administered. Good feeding should be advised.

Dropsy of Uterus. When this condition is present, it is inadvisable to undertake treatment; the trouble is usually far advanced in these cases, and other organs are often badly affected.

Malformation of the Vagina. The vagina is occasionally found to be malformed, and in some instances the passage has only been six or seven inches in length, and in some instances injury to the mare at coitus has resulted. The length of the vagina varies greatly. In some animals when the vaginal speculum is introduced it is only with difficulty that one can reach the os uteri, whilst in others it is impossible to insert the speculum properly on account of the shortness of the passage.

In all mares at the time of œstrum, the os uteri appears to have been forced more posteriorly than at other times, and consequently the length of the vestibule of the vagina appears to be shortened.

In those mares possessing an abnormally short vagina it is advisable to produce artificial insemination rather than risk injury to both horse and mare. In some cases the mare will appear to sit down on the stallion at the time of coition, and as a result there is often injury to the penis and bruising or laceration of the anterior portion of the vagina.

Inflammation of the Vagina. The inflammatory process may be a result of extension of inflammation from the uterus. It is often seen as a result of bruising or laceration received at the time of parturition. There is also a specific or contagious vaginitis recognised, but inflammation is very often encountered when it is impossible to ascribe it to either of the above mentioned, more especially in aged and barren mares. In chronic

forms of leucorrhœa that have been months in existence, it is not unusual to find the inflammation restricted to the vagina, the inflammatory process having subsided in the uterus. In the chronic forms that are usually encountered in sterile mares, the affected areas may be small or large. In some cases it is diffuse, whilst in others only isolated localised lesions are discernable. One often discovers patches of congestion, inflammation, ulceration and ecchymosis on examination with the speculum. The anterior portion of the vestibule appears to be especially subject to this localised form.

The colour of the mucosa may vary from a slightly deeper pink than normal to dull grey or yellow. The yellowish and greyish tints are most commonly associated with relaxation of the walls of the vagina, and appear to be due to a general lack of tone.

The discharge may be present in small quantities, only appreciable with the speculum, or it may be seen escaping from the vulva after micturition or when the mare is laying down. In many cases the exudate is in the form of a thick milky scum, or it may even be stiffer in consistency, adhering to the lateral walls at the anterior portion of the tube. When removed it comes away in flakes, leaving the denuded surface in a state of congestion, with a great tendency to bleed. Most of these cases are associated with ulceration. Sometimes the discharge is frothy, whilst in others collections of mucus on the walls are readily discernable. In the chronic form of leucorrhœa, restricted to the vagina, the character of the discharge is similar to that found in the uterus under the same condition. It may be milky or starchy in appearance.

In vaginitis the discharge may vary from a collection of serous looking fluid to that containing pus, suspended particles of exudate, and lining epithelium. Large films of greyish material may escape or be floating in the limpid serous fluid.

In some cases a bluish-grey film appears to be superposed to the mucous membrane with localised patches of ecchymosis. This is usually found in old standing cases and is associated with a relaxed condition of the vagina. In many cases the faulty secretions are very acid in reaction, this is absolutely fatal to the existence of spermatozoa.

Treatment. In all cases it is of primary importance to first thoroughly cleanse the organ; this may be accomplished through the agency of soap and hot water. One can either use a sponge, tow, cotton wool soaked in water, or inject the solution. Personally, I prefer to fasten a quantity of tow round or in one extremity of a suitable stick. I think tow is preferable to a sponge, for once used it may be thrown away, but sponges are rarely cleaned satisfactorily. This is a special instrument made for carrying a sponge, tow, or cotton-wool.

Any discharge that may have collected on the inside of the thighs, about the perineum or the hocks, should be removed, and the application of an emollient may be advisable to prevent further excoriation. When the secretion is very acid, dilute alkalis, as Sodium bicarb., may be employed in either hot or cold solutions.

Where the walls are relaxed and flabby, a solution of Zinc sulph., Aniodol, Alum, Chinisol, Sodium bicarb. Zinc chloride, Hydrarg. perchlor., Izal, Boracic acid, Salicylic acid, Tannic acid, Carbolic, or any tar preparations may give satisfactory results. One must vary the injection from time to time. In some cases great benefit is derived from starting the treatment with the daily injection of a tar preparation in warm solutions, and after four or five days using cold solutions of an astringent, as Zinc sulphate. I have had very good results with this treatment, and the daily irrigation of the vagina with quantities of cold water has given me very favourable results. The cold water appears to impart tone to

the relaxed condition of the tissues and also has an astringent effect. Protargol (which is a preparation of silver) is very effective in some cases.

One can vary the irrigation with spraying and tamponing.

To be successful the irrigations and tamponing must be carried out once or twice daily. The quantity of liquid used must be varied to suit the case, but it is essential that all exudate shall be removed at each dressing.

A generous diet, and in some cases a course of tonic and cooling medicine may be advised. But in all cases green food will be found beneficial, and if it is possible to get mares, affected with vaginal or uterine chronic inflammatory conditions, into paddocks of Sanfoin, Lucerne, Rye grass, or Clover, or even ordinary mixed green food, an appreciable improvement is soon evident.

Contagious Vaginitis. This is a condition that has been described by Dieckerhoff. It is a very acute disease, and frequently fatal, but those cases that recover are said to have a chronic vaginal discharge for a long period afterwards. The period of incubation is a short one, often twelve to twenty-four hours. The disease is said to be ushered in with symptoms of high fever, and acute inflammation of the vaginal mucosa. The inflammatory process is frequently associated with the formation of vesicles and ulcers. It often tends to involve the whole of the tissues of the vagina and not remain limited to the mucosa. Frequently it sets up a fatal peritonitis. In the acute form death often takes place in 48 hours, whilst in a less virulent form the case runs a more or less protracted course.

Treatment. This is practically limited to protective measures, attendance to the constitutional symptoms, and the rational treatment of the vaginal inflammation. (Dollar).

Growths in the Vagina. When the pressure of a tumour or polypus has been demonstrated, it is advisable to practise total extirpation, where it is possible. If the growth has a well marked pedicle this is easily accomplished, but if the base is diffuse it may be impossible to effect its removal, on account of its situation and risk of hæmorrhage. Abscesses and cysts are occasionally found in the walls of the vagina.

I have only seen two cases of vaginal abscesses, and in each of these my attention was not called to the mare on account of sterility, as both were pregnant, but were showing symptoms suggestive of abortion. The mare which was out at grass, was noticed to be dull and not feeding. She was brought in and placed in a box, when she was noticed to have a slight discharge from the vagina. She laid down and got up again at intervals, but did not attempt to roll. She occasionally strained and looked round towards her flank. I examined her and found a swelling in the roof of the vagina. It could also be felt through the rectum. I treated her with hot applications to the perineal region and the injection of warm solutions per rectum. The following day I evacuated the abscess, but the mare aborted. She had carried her foal for eight months.

In the other case the mare had been pregnant about seven months. The symptoms presented were practically the same as in the previous case. The abscess, however, was situated more anteriorly, and dispersed into the abdominal cavity, setting up a fatal peritonitis.

Cysts are sometimes encountered in the vaginal cavity. They can usually be evacuated. The presence of a tumour, polypus, cysts, or abscess in the vagina may cause symptoms of œstrum, or in the pregnant mare may induce abortion, or may present an obstacle to delivery.

Lacerations. In the vagina one often meets with portions of the mucous membrane hanging from the

roof or sides of the tube. In many cases no symptoms are manifested, but in others the free lacerated portion may act as a foreign body and induce nymphomania.

Treatment. Where the laceration or lacerated portion is small in extent no treatment is necessary, but if it causes the mare to be frequently in season it is advisable where possible to remove it. Caustics, absorbents, or stimulating dressings may effect this, but where their application is inadvisable the *écraseur* or other surgical appliance may be necessary.

The roof of the vagina is sometimes so extensively lacerated that it directly communicates with the rectum.

Relaxed Vagina. This constitutes the so-called ballooned condition, very frequently encountered in aged mares. It is sometimes associated with catarrh of the vestibule, or chronic inflammation of the cervix or uterus. The walls are very relaxed, and when the mare moves sharply or jumps, a peculiar noise is emitted, caused by the expulsion of air.

Treatment. If catarrh is present it must be treated on the usual surgical lines. The relaxed condition very frequently improves after a course of cold vaginal irrigations, with the internal administration of tonics and a good liberal diet. When the mare is making favourable progression the organ will be felt to respond to the hand when introduced, or will closely envelop the sides of the speculum. In these cases weak solutions of Zinc sulphate, Alum, and Plumbi acetate in copious cold injections have given good results.

It is not unusual to find the mucosa of the vagina of an unhealthy yellow or dirty grey colour, with localised or diffused patches of inflammation. When the inflammatory condition subsides, the mucosa gradually regains its normal colour, and the tone of the vestibule returns. In some cases the painting of the vestibule with weak solutions of iodine, or chinolol, is found beneficial.

Violent Muscular Contraction of the Vagina after Coitus. Often, in very excitable mares, as soon as the horse dismounts, the mare ejects the seminal fluid, and thus the service is rendered ineffective. Many cases of this abnormal muscular contraction are due solely to the mare's excitable temperament, but it is not rarely due to covering the mare when she is not ready for service. Large numbers of mares are very excitable for the first two days of oestrus, and will strain badly if covered at this period, but if the service is delayed for a day or so, the mare will often be perfectly quiet. These excitable mares should be exercised immediately after service, or placed in a closed box. Many mares will eject the semen if at once turned off into the paddock with other mares. When a mare persistently ejects the seminal fluid after coitus, it is advisable to practice artificial insemination.

Faulty Secretions of the Vagina. The normal secretion of the vagina is slightly neutral in reaction. Under various abnormal conditions the secretion becomes acid in reaction. The slightest tendency towards acidity at once renders spermatozoa inert. The presence of an acid reacting secretion of the vagina is a common cause of sterility.

Treatment. Internally, alkalis and tonics may be advised, and for the vaginal injection a solution of sodium bicarbonate usually gives the best results. The injection, which may be either hot or cold, should be carried out once or twice daily until the secretion becomes normal.

Ulceration of the Os Uteri. This is a frequent source of sterility. The ulceration may be restricted to a few small isolated spots, about the size of a millet seed, or it may be extensive involving the whole of the cervix. It is usually a sequel to chronic hyperæmia of the cervix. I have often observed extensive ulceration of the cervix and surrounding tissues, in mares that have foaled about a fortnight or three weeks, and in

these particular cases, the mare has invariably been in bad condition, with a not uncommon history of having been treated as a barren mare, and not fed in the way a mare should be whilst carrying a foal. In these cases more or less anæmia is present, and one can but conclude that the ulcerative process is associated with the anæmic condition observed.

On vaginal examination the ulcerated surfaces are seen as greyish or red looking patches, and there may be a slight discharge. In extensive ulceration in an aged mare the case is hopeless, but in a case treated early the condition often rapidly improves. It is more frequently seen in aged barren mares than in those under seven years of age.

Ulceration of the cervix has been ascribed to the interference with the lymph vessels in that position. As a result, the circulation becomes impaired, and localised patches of necrosis occur.

Treatment. The ulcerated surface is to be thoroughly cleansed with a warm solution of a mild astringent, and for a few days zinc sulphate may be used for preference. One then paints the ulcers with argenti nit. 10 per cent. every third day. Some of the milder forms require only two applications, and the after treatment consists in the daily sprayings of the cervix with an astringent solution, as zinc sulphate alone, or with plumbi acet. or alum. Chinolol gives satisfactory results in some cases after the ulcers have been cauterised with argenti nit. solution. To carry out the painting satisfactorily, a small camel's hair brush, with a handle about 18 inches in length is necessary, so that when the speculum has been introduced one can see the ulcers and more easily direct the application. A solution of iodine 10 per cent. or protargol, may also be used with advantage in some cases. Where diffused patches of ulceration are present, cold injections are preferable to warm ones. If the mare is low in condition good feeding and a course or tonic medicine may be followed with good results.

Hyperæmia of the Cervix. This condition is commonly found in aged barren mares, and in those that have not been covered for three or four seasons. It is also said to be caused by a change of climate.

It occurs as acute and chronic. The former, if treated, is usually only a temporary cause of sterility, whilst the latter form is usually permanent.

In acute cervical hyperæmia, the cervix and the surrounding tissues may be found to present a swollen and much thickened appearance. The opposed surfaces of the folds of mucous membrane may be adhering, and covered with a thick exudate. The cervix often presents the appearance of gelatinous infiltration, with small hæmorrhagic centres scattered here and there. There is often a thick mucus in the orifice of the os uteri, or the neck may be covered with exudate. The swollen condition of the cervical tissues is due to blood infiltration, and if it persists for some days, the exuded serum becomes plastic and a permanent thickening results.

In the chronic forms, ulcerative changes in the tissues of the cervix are very liable to supervene.

Treatment. In the acute form the injection of a warm solution of ac. boric or sodium chloride may be tried. The anterior portion of the vagina, including the *cul de sac*, may be packed with absorbent cotton wool to mechanically assist in the depletion of the engorged tissues. The cotton wool must be applied so that the tissues of the cervix are completely enveloped in the wool. The packing may be allowed to remain in position for six hours, when it should be removed and a copious warm boracic solution injected.

When the case tends to become chronic, the daily hot vaginal injections may be followed by the application of a weak solution of iodine every third day. Potassium iodide may be given internally. The mare, when it is

possible, should be placed on a grass diet and allowed plenty of exercise.

Deviation of the line of Cervix (flexion). The cervix is normally prolonged posteriorly in a horizontal direction, but one very often finds the line to be deviated towards the roof, floor or sides of the vestibule of the vagina, or it may be flexed on itself so that the os uteri is projecting anteriorly instead of in the posterior direction.

These abnormal positions, preclude the possibility of conception. The flexions are often due to contractions of the tissues, resulting from injuries, inflicted at times of parturition or during coitus.

Treatment. In all cases of badly flexed cervix, it is advisable to resort to artificial insemination.

Spasm of the Os. When one examines all the mares in a stud, that have been barren for two or three years, one not uncommonly encounters mares presenting this condition whilst in oestrus. The os is firmly contracted, and in these cases, it is advisable to make a thorough vaginal examination to determine whether the os is capable of remaining patent after dilatation has been effected. If the os quickly closes after relaxation has been brought about, it is advisable to insert a vulcanite tube into the os, immediately before service, and remove it shortly after if the mare is quiet. But if the mare is very excited, it is advisable to leave the tube in position for an hour or so. A pattern of tube for this purpose is made in various sizes. The tube is introduced as described above, and may be withdrawn by a tape which is attached to the side of the tube and left hanging outside the vulva. Where this method fails it is advisable to inseminate artificially.

The dilatation of the os is accomplished either by the application of a sedative as belladonna, hot compresses or continuous irrigation with hot water containing a sedative, by introducing a special dilator, or one can gradually dilate the os with the fingers after applying a sedative. Failing results from these measures one must resort to artificial insemination.

Indurated or Schirrous Os Not uncommonly seen in mares, which have received injury at time of parturition, the condition may be due to forcible extraction of the fetus before the os has fully dilated, and in rare cases from cicatricial thickening, the results of section of the os uteri when spasm has been present at time of foaling. It may also result from injury inflicted in the delivery of a very large fetus.

The lips of the cervix are tumefied and enormously thickened. In some cases the posterior portion of the cervix is not so badly affected as the anterior, and one may be able to introduce a finger for half an inch through the os, when a considerable obstruction may be encountered.

Treatment. Painting the indurated parts with iodine, and the internal administration of potassium iodide has been tried, but rarely produces beneficial results. When this condition is encountered at parturition, section is usually employed. In these cases it is always advisable to artificially inseminate after dilating the os.

Non-retaining or Relaxed Os. An abnormally relaxed os is often the cause of sterility. It may also be a cause of abortion. This condition may primarily be associated with injury, inflicted at time of parturition, or to a flaccid condition of the tissues of the cervix. In those cases due to injury, the healing process may have been completed, but the resulting cicatricial contraction may have caused the os to be widely dilated. In some cases the closed fist can be easily introduced through the os.

Treatment. If the relaxation is unassociated with laceration, but is present in a mare whose general condition is low, a course of nerve tonics might be advised, and daily irrigation of the vagina with cold astringent solutions practised. Surgical treatment is

very disappointing. In some cases I have practised artificial insemination, and then endeavoured to close the os by elastic ligature or plugging. In some cases the cervix is too short to admit of success of the first mentioned method.

Occlusion. The occlusion is most commonly caused by a piece of membrane overhanging or plugging the os; usually it is a portion of the cervical or vaginal mucosa, that has been lacerated during parturition and become partially detached, but in some cases the closure may be a result of an isolated tumefied portion of the cervix acting as a plug.

Treatment. Where the membranous structure is extensive, it is advisable to leave it, and resort to artificial insemination. In cases where the removal is deemed necessary, curetting, cauterisation, or extirpation may be practised. Tumours or polypi which obstruct the opening must be surgically removed, when possible.

Other Conditions. There are a number of conditions that may be taken together.

Disinclination for the male. Not coming into season; this may arise from various conditions, e.g., catarrh of the womb or vagina, dropsy of the womb, faulty development, degeneration or cystic conditions of the ovaries, weakness of the sexual organs as a result of breeding too early, phlegmatic temperament and proneness to put on fat, general weakness as a result of debilitating disease, nervous diseases affecting the spinal cord.

Treatment. Except in structural disease or malformations, the conditions must be treated on the usual lines.

The mare is often blamed when the horse is really at fault. The service may be incompletely performed, as a result of physical incapacity to perform the act, or from temper or excitement. The spermatic fluid may contain no spermatozoa.

In 1888 M. Repiquet contributed a report to *L'Ecole Vétérinaire d'Alfort*, in which he pointed out that 50 per cent. of the mares put to the horse annually remain barren, and that of these the majority have normal ovaries, but either structural or functional disease of the os uteri, and could be successfully bred from if artificially inseminated (*Veterinarian*, 1898).

Artificial insemination has been practised more in America than in any other country. It has obtained but slight recognition in France, Germany and Russia. English veterinarians have of late years taken up this branch of surgery. The operation is an easy one but strict attention to technique is necessary.

The instruments required comprise a vaginal speculum inseminator and an electric torch. There are various patterns of these instruments on the market. One may also require a vaginal dilator and a sponge-carrier. There are several patterns of inseminators in use in this country. I much prefer the metallic inseminators, and both the straight and curved instruments are necessary. One frequently sees a mare in which the cervix uteri is so flexed as to render the introduction of the straight inseminator quite impossible. The electric torch is very useful on dull days, but when there is a reasonable amount of light, one can dispense with the torch.

Modus Operandi. Having examined with the speculum and found the genital organs healthy, or noted any structural alteration, one proceeds to wash out the vagina with a dilute solution of the alkali. Some operators prefer a solution of permanganate of potash. I never use a disinfectant as I consider it is contra-indicated, and might possibly destroy the spermatozoa. Two buckets of clean water at the temperature of 100° F. are required. To one of these one adds a small quantity of bicarbonate of soda. The other bucket is required for the inseminator. A rubber bag is now sold that will closely envelope the inseminator so that that

instrument may be placed in the water, and kept dry and at the required temperature. The arms of the operator should be denuded up to the elbows, and be perfectly clean. A sponge, or three or four tampons of cotton wool, or tow, should be immersed in the alkaline fluid and then carried into the vagina, either by means of the hand or the sponge-carrier, and the whole of the vaginal and cervical mucosa lightly douched. When the operation is completed, no appreciable quantity of fluid should be seen. At the same time the os may be gradually dilated, when necessary, by gently rotating the hand.

Opinions vary as to the time this washing out of the vagina should take place. Some do so immediately before the service, whilst others advise that it should be carried out a few hours earlier. I prefer to carry out the process immediately before. Many owners are adverse to the use of the vaginal speculum, and the cleansing of the vagina prior to the service, as they believe a horse gives a mare a far better service without these preliminaries. But I am perfectly convinced, as a result of a number of experiments I have conducted, that this is fallacious, and furthermore, that the amount of semen left by the horse is in no way influenced by this process. It is advisable to carry out the examination, etc., in a box or yard where it is impossible for the horse to see or hear the mare, as many horses become very excitable and bad tempered if they can see the mare and are kept from her, and eventually the service may be a bad one.

It is always advisable to have the hobbles applied before the horse is permitted to cover the mare, as many valuable horses have been injured as a result of neglect of this precaution.

As soon as the horse dismounts after serving, the operator is to insert his left hand, and it is to be carried forward to the anterior portion of the vagina, where immediately behind and beneath the cervix, on the floor of the vagina, the semen will probably have collected. To aid this process, the fingers of the left hand may be depressed on the floor of the vagina at this spot. The inseminator is now introduced by the right hand. The index finger of the left hand should act as a guard for the nozzle which is directed into the pool of semen (if that is present), and the piston of the inseminator is withdrawn by the right hand. The nozzle of the charged tube is then to be introduced into the uterus, through the os uteri, and its contents discharged into that organ. By repeating this process another mare may be inseminated from the mare that has already been covered, if there is any spermatic fluid left in the vagina. There is a glass tube in the sides of the metallic inseminators so that it is readily seen whether or not any seminal fluid has been withdrawn.

There are several important points in connection with insemination, namely, the spermatic fluid must not be withdrawn from the vagina and exposed to strong rays of the sun; the whole operation should be carried out as speedily as possible; the inseminator is to be pushed quite through into the uterus before its contents are discharged; the inseminator is to be kept dry, and no water or air must be injected into the uterus at the time the semen is discharged.

With practice the smallest appreciable quantity of semen is at once recognised on introduction of the hand into the vagina. Very often when the semen ejected is small in quantity it may be found on the cervix or the lateral walls of the vestibule of the vagina. If no semen is found in the vagina, the act may have been improperly performed by the horse; no semen may have been ejected, or the semen may have been introduced directly into the uterus.

If it is inadvisable to cover a mare owing to the existence of injury to the back, excitable temperament, or

other reason, one can cover another mare that is in season, and inseminate from her.

The os of the mare that is to be covered may be plugged before service, or one may place an elastic ligature on the cervix.

Aphrodisiacs. In breeding districts, one is sometimes requested to artificially induce œstrum. Formerly the so-called Aphrodisiacs were advised, but at the present time neither veterinary practitioners nor the laymen have much faith in them. In America a proprietary article known as Vetol, which is said to be a preparation of Yohimbin, has been claimed to exert aphrodisiac effects. The Black Haw or Viburnum is also credited with such action. German veterinarians have written favourable accounts of the use of Yohimbin.

Breeders of thoroughbred stock like their mares to come into season the first three months of the year, although it is usual to cover thoroughbred mares from February until June—early in February preferably.

American veterinarians have for several years adopted the following method for inducing œstrum. The vaginal speculum is introduced and the os uteri is gradually dilated with a special dilator, the cervix is then painted with a solution of an irritant, and the mare is said invariably to come into season about the fourth to sixth day after the operation.

The CHAIRMAN said they were very much obliged to Mr. Castle for this exhaustive and most instructive paper which was almost beyond some of them.

The HON. SEC. said he desired to express his sincere thanks to Mr. Castle for coming forward to read a paper, and he was sorry the attendance was not commensurate with the importance of the paper, but many members were unable to be present. They would have the opportunity of reading it in the Veterinary papers, and many others not members of that Society would also read it with a great deal of interest, and gain much information from it. Their meetings in that way not only benefitted their own members, but also did good to the whole of the profession through the publication of papers and the report of the discussions. Everyone acquainted with secretarial work knew the difficulty of getting a paper, but Mr. Castle responded readily as soon as he was asked, in spite of the fact that he had been so recently elected a member.

With regard to the vaginal speculum Mr. Castle used, it would be rather interesting to know where it could be obtained. Another point was as to the methods of restraint Mr. Castle adopted when he was carrying out these various disinfective processes, and doing such things as putting an elastic band on the os uteri. Some mares were rather difficult to handle at all, and especially in an operation like that. He imagined one had to be pretty careful in applying sufficient restraint. Then a very exhaustive list of antiseptics which could be used was given. It would be well to know which, from his extensive experience, Mr. Castle considered the best. If he would inform them what he generally used it would be some guide to the members as to what would be likely to meet with the best results.

The CHAIRMAN said he would like to ask what strength of aniodol he used, also what strength he made the solution of silver nitrate, and whether he had used any Chinosol pessaries for catarrh. He had used them himself and found them very successful.

Mr. FAITHFULL asked whether, when he had a case for daily washing out, Mr. Castle had the mare at hospital.

Mr. CASTLE said he had described what he saw in stud work.

Mr. FAITHFULL asked whether in private cases a groom could be allowed to wash out, or should a call be made for it.

Mr. CASTLE said one must take into consideration what kind of man the groom was.

Mr. FAITHFULL asked whether a working mare would be taken into hospital.

Mr. CASTLE said he would if the case was worth treatment, and the owner was willing to spend money on it.

Mr. AUGER said he had not had sufficient experience to discuss the paper, but Mr. Castle appeared to have given immense attention to the subject, and indeed could be called a specialist in it.

Mr. FAITHFULL said that very often a man would tell them he had got a mare that would not stand the horse, but he never thought of asking them to come professionally and do something.

Mr. AUGER asked what form of insemination Mr. Castle had used.

Mr. CASTLE replied that he liked the metal speculum best, and the pattern he used was Polansky's which he had met in several studs. It was inserted sideways and turned over. There was a big iron trough at the bottom, and the arms went up to dilate the os so that a very good examination can be made with it. As to Chinosol pessaries, he could only say he had used iodoform boracic with very good results. For painting ulceration he used Argenti. nit. 10 per cent., varying it with Iodine, but he was a great believer in Zinc sulphate for these cases. One point he omitted to mention in his paper as to the dilation of the os, he had heard that when the Arabs had a mare they could not breed from which they thought might be due to contraction of the os, they galloped her till she was breathless then covered her at once. It might be due to constriction of the os which got into a relaxed state when the mare was breathless.

As to restraint, he had had his hand in as many as 20 mares in one day, and the only precaution he took was a twitch and limb up. He never found he had to do more than this. Every mare covered always had the twitch and hobbles on. As regards the ligature business, this was very disappointing, useless, and unsatisfactory. He did not think there was any danger in handling mares in the way he had described. As to disinfection, if Mr. Smith wished to know what really seemed to him the best uterine and vaginal disinfectant, he strongly believed in Zinc sulph. for what was known as a dirty womb, alum and lead also gave good results. He used 5 grains to the ounce of Zinc sulph. The inseminators he preferred were the metal ones, and they could be had either straight or curved.

The HON. SEC. asked if Mr. Castle could state the percentage of successes obtained by insemination?

Mr. CASTLE said that unfortunately, in the large majority of cases the mares they got had been barren for a number of years. Unless one could get at a mare so as to dress the womb regularly, they could not get very good results, because although the mares might be inseminated, the womb might not be in a fit condition. It was claimed by the people who sold the instruments that they got 90 per cent., but if a man got 40 per cent. of really barren mares in foal he would be doing uncommonly well. "Sandflake filly," which made a very high price, was got by insemination. The inseminator was all right as long as the womb was healthy and there was no physical deformity, but when there was any catarrh they must not expect success. Sometimes he had gone three or four times before he could get a womb into anything like condition for covering the mare.

Mr. FAITHFULL moved a vote of thanks to the essayist and to the Chairman, which the Hon. Sec. seconded.

Mr. CASTLE briefly replied, and the Chairman said he was always pleased to be of any use to the Society. It was a great pleasure to hear such a paper, but he hoped their next meeting would be more largely attended.

The Tuberculosis Order of 1913.

At a meeting of East Lothian County Local Authority under the Contagious Diseases (Animals) Act, Mr. T. Elder, Stevenson Mains, presiding, a report was submitted regarding the working in the county of the Tuberculosis Order, 1913. It was reported that five animals had recently been slaughtered by the Board, these being in three places in the county. The cases had occurred mainly in the eastern district. In one instance the proprietor of an animal had, as was within his rights, the animal slaughtered at his own instance. No compensation is paid in such a case. In another instance a fine heavy cow had been slaughtered owing to udder tuberculosis. It had been valued before slaughter at £15, and the sum obtained for the carcase and hide left a balance in hand over expenses and compensation due. The Board agreed that in such a case the spirit of the Act was that the surplus should be paid to the owner of the animal, and it was agreed the Board should adopt this principle.

It was reported that seven ponies which had reacted under the Mallein test, in connection with the outbreak of glanders in Prestongrange Colliery, had been slaughtered. On post-mortem four of the carcasses showed clinical symptoms of glanders and three did not. The Board agreed to pay £66 compensation out of a valuation of £94 for the ponies.

Mr. William Henderson, of Lawton, presided at a meeting of the Local Authority of Perthshire under the Diseases of Animals Acts, which was held at Perth on Friday, 8th inst. Further communication from the Board of Agriculture and from the Treasury were read in reply to representations for amendment of the Tuberculosis Order, 1913, from which it appeared that the representations were ineffective. After discussion, it was agreed to put the Order into operation and to appoint the veterinary inspectors already in office to carry it out, it being remitted to the Emergency Committee to meet with the inspectors and arrange as to terms. —*The Scottish Farmer*.

The official gazette of the County Councils Association contains the following:—

"The Board of Agriculture and Fisheries have given the undermentioned replies to questions addressed to them by the Notts County Council:—

1. DISCRETION OF LOCAL AUTHORITY.

*Question:—*Can the Local Authority exercise any discretion in regard to slaughter if they are advised that the tuberculosis from which the animal is suffering is not of an infectious character?

*Answer:—*The obligation of Local Authority to slaughter is regulated by Article 5 of the Order, and is not affected by any advice to the Local Authority as to whether the tuberculosis is or is not of an infectious character.

2. TUBERCULIN TEST.

Question:—(a) Are the Local Authority bound by the results of the tuberculin test, which they are informed is not always reliable?

(b) If any bovine animal appears to be in good condition and not emaciated, but reacts to the tuberculin test, is such an animal to be slaughtered, if notice is sent to the Local Authority under Article 3 of the Order?

*Answer:—*The fact that an animal reacts to the tuberculin test does not necessarily involve its slaughter, but the evidence so afforded, when it has been necessary to apply the test, must be considered in connection with any other evidence available to show that the animal falls within the scope of Article 3. If an animal which

is neither an emaciated animal nor a cow should happen to be tested with tuberculin and react, it will not be slaughtered under the Order.

3. COMPENSATION.

Question:—Is it absolutely certain that the Local Authority will receive a sum equal to half the value of the animal slaughtered in accordance with Article 8 of the Order, or is there a probability of this amount being reduced if the claims to the Board exceed the amount allowed by the Treasury?

Answer:—The undertaking to repay to Local Authorities from the Exchequer one half the net cost of compensation for animals slaughtered under the Order is not limited in the sense implied in the question, and the Board have no reason to anticipate that the undertaking as given in their circular letters of the 17th February and 25th March will be withdrawn or qualified without due notice.

The Board have also given the following information upon the question of salvage: In Form B (the summary account of the compensation paid for animals slaughtered) the Local Authority are required to deduct salvage received from the carcasses or parts of carcasses of slaughtered animals.

The sums to be brought to account are the net proceeds after deduction of expenses incurred in the salvage of carcasses.—*Local Government Chronicle*.

"Referred Back."

At a meeting of Cornwall County Council at Truro on Wednesday, 13th inst., Mr. Boscawen said the Contagious Diseases (Animals) Committee asked that the

bill of Mr. Langdon, veterinary inspector of the Camel-ford district, be referred back.

Mr. Buller Howell said Mr. Langdon was under the impression that he had to apply the tuberculin test to all animals found ailing. Hence the large amount of his bill, £88 5s.

The Clerk (Mr. Cowlard), in reply to Mr. Bazeley, said the Order stated that the tuberculin test was only to be applied where absolutely necessary.

The bill was referred back.

The "Poisons Act" in New Zealand.

CORROSIVE-SUBLIMATE SOLOIDS.—A few weeks ago Sir Robert Stout gave judgment in a case heard at Palmerston North on an appeal from the decision of Mr. A. D. Thomson in the Lower Court, holding that soloids or pellets of corrosive sublimate used extensively by dairy farmers as a disinfectant drench for cattle could be sold without an entry being made in the poisons book. The Magistrate held that they are preparations for which the entry is not required. It was pointed out during the hearing that the Department of Agriculture distributed thousands of these soloids annually, and that in the Palmerston district 25,000 have been sold in a season, chiefly by post. His Honour remarked that the soloids consist of 8½ grains of corrosive sublimate, ¼ grain of colouring matter, and about 3 grains of adhesive material. Even if it were held that the soloids are a preparation, that does not prevent them from being also corrosive sublimate itself. He held that they come within Part 1 of the Poisons Schedule.—*The Chemist and Druggist*.

DISEASES OF ANIMALS ACTS 1894 to 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders † (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered.*
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
GT. BRITAIN.													
Week ended Aug. 16	6		7				1	2	33	53	2	61	551
Corresponding week in	1912	5	5		4	25	1	3	19	33		40	427
	1911	11	16				4	4				37	582
	1910		31				12	32			1	26	132
Total for 33 weeks, 1913	367		402				109	290	1882	3800	127	1634	21903
Corresponding period in	1912	550	626		67	435	118	226	2317	5050	170	2154	27958
	1911	548	685		7	420	124	302			306	1696	19937
	1910		1152		2	15	237	745			332	953	8556

† Counties affected, animals attacked: London 2.

Board of Agriculture and Fisheries, Aug. 19, 1913.

IRELAND. Week ended Aug. 16	...				...		...		Outbreaks		...	...	...
	...				...		...		2	5	3	5	...
Corresponding Week in	1912	...	...	...	5	10	...	...	1	...	3	5	...
	1911	...	...	...	...	...	...	...	4	...	5	30	...
	1910	...	...	...	...	...	...	...	3	1	2	15	...
Total for 33 weeks, 1913	...	...	...	...	...	...	...	...	96	358	106	605	...
Corresponding period in	1912	...	3	3	21	213	...	...	51	262	170	1441	...
	1911	...	7	12	...	...	2	3	49	250	89	1507	...
	1910	...	5	8	...	...	1	2	48	346	71	1673	...

† These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Aug. 18, 1913

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

The Horse not yet Extinct.

There was a great gathering at Dunure Mains on Wednesday, 13th inst. The occasion was the annual outing of the students attending the continuation classes conducted in Lanarkshire by Mr. Jas. M'Cutcheon, of the West of Scotland College of Agriculture. Whenever it became known that Mr. William Dunlop had agreed to welcome the young men, and to show them his magnificent stud of Clydesdale horses, there was a general desire in all the districts to take part in the excursion, and over 200 of the members of the classes attended. Lesmahagow sent 40 students, East Kilbride 34, Strathaven 50, Carnwath 40, and Slamannan 30. In addition, about twenty young men who are attending demonstrations given by Prof. J. R. McCall, of the Glasgow Veterinary College at Holmes Farm, Kilmarnock, were also given the opportunity of attending.—*The Scottish Farmer*.

As good as a V.S.

A case of cruelty to a horse was before the King's Heath (Birmingham) magistrates on Tuesday, the defendant being Ernest Rudge, of Halesowen. It was stated that a horse belonging to defendant had been injured, and an attempt had been made to stitch up a large gaping wound with an ordinary needle and thread. The stitches had been placed so near the edge of the wound that they had broken away.

Rudge, who considered he had done as well for his horse as a veterinary surgeon, was fined 20s. and costs, the Magistrates thinking he had erred in ignorance.—*The Daily Telegraph*.

Annual Parade at Canterbury.

The Tenth Annual Parade of the Corporation employees took place in the Cattle Market, on Thursday, 14th inst. There was a very large attendance, and the judging was once again in the hands of the trio who have so ably discharged this duty for the past nine years, viz., Messrs. W. H. Crowhurst, F.R.C.V.S., G. M. Goodson, and R. W. Wood. During the afternoon there was a good muster of the members of the Corporation and officials, including the Mayor (Mr. G. Mount).

Mrs. W. H. Crowhurst was also an interested spectator.—*Kent Herald*.

"Sweet Bloom."

At West Linton Show, on Saturday, 9th inst., the second prize in the Clydesdale brood mare class was awarded to "Sweet Bloom," belonging to Mr. H. D. Lorimer of Callands. The class was strong, and had the mare not been looking rather thin as the result of a cold she would, in the opinion of many good judges at the ring side, have deserved the red ticket. This mare is exceedingly well at present and thoroughly sound. Doubtless many will recognise in "Sweet Bloom" the filly which was the subject of litigation in what was known as "The Ringbone Case" in the Sheriff Court at Dumfries, and afterwards in the Court of Session in Edinburgh.—*Dumfries and Galloway Herald*.

Irish Horses for the Greek Army.

The Greek steamer Assos arrived in the Shannon for the purpose of embarking some 400 horses which have been purchased mainly in Limerick and South Ireland for the Greek Government. The horses are for army purposes.

Bowls at Woodbridge—V.V.B. Fund.

Last year Mr. T. G. Heatley established a precedent in Woodbridge by linking the game of bowls to a charitable object. He invited entries for a Bowling Tournament which should be played on his lawn—a beautiful piece of turf—and gave the entrance fees to the Victoria Veterinary Benevolent Society.

The promoter was so pleased with the number of entries—thirty-three—that he decided to repeat the experiment this year, and fifty-two players put down their names to play. This increased number certainly means an increased call upon Mr. Heatley's hospitality, but as it means a larger amount for the Benevolent Society it almost goes without saying that Mr. Heatley's pleasure goes up automatically.

A pair of bowls of the value of not less a guinea were offered for the first prize, and a silver spoon for the second prize was given by W. Shipley, Esq., Hon. Sec. of the Society. Mr. Shipley was present at the competition in the dual role of Secretary and player.

FOURTH ROUND.

L. W. Hayward 11, R. Smith 9.
O. Thurlow 11, E. G. Green 10.
G. Giles 11, G. Chandler 7.
H. Hazelwood 11, J. F. Thurston 7.

SEMI-FINAL.

O. Thurlow 11, L. W. Hayward 9.
G. Giles 11, H. Hazelwood 5.

FINAL.

G. Giles 11, O. Thurlow 6.

This was a strange game. Thurlow got the first 6 points and never scored again.

Amongst the players were: T. W. Smith, J. F. Thurston, H. E. Wilkinson, T. G. Heatley, W. Shipley, and W. Turtill.

Mr. Shipley writes:—I am pleased to say I have received a cheque value £5 4s. 6d. from Mr. Heatley, being the proceeds of the Bowling Tournament, which will again help us to forward the objects of our Fund.

Personal.

ANDREW—URE.—On 16th August, at Ware, Archibald Houston Andrew, M.R.C.V.S., to Marianne Prentice Ure.

Mr. W. LOGAN, M.R.C.V.S., Inverness, was judge of the Light-legged horses, at the annual show of the Central Banffshire Farmers' Club, which took place at Keith on Tuesday, 12th inst.

Mr. ALEX. POTTIE, junr., M.R.C.V.S., Paisley, was one of the judges of the Light-horse Class at the annual show held under the auspices of Arran Farmers' Society at Lagg, on Wednesday, 13th inst.

Mr. DAVID ALLAN, M.R.C.V.S., Clarkston, Busby, judged the Light-legged horses at the annual show of the Biggar Farmers' Club, held on Thursday, 14th inst., at Biggar.

OBITUARY

JAMES G. BURDEN, M.R.C.V.S., Southampton.
Graduated, Lond: Dec., 1879.

Mr. Burden's death occurred on August 16th, from carcinoma of intestine. Aged 65 years.

CROWHURST.—On Aug. 18th, at The Pleydells, Sturry, Isabella Rosina, the dearly loved wife of James Crowhurst, F.R.C.V.S., and younger daughter of the late Capt. Samuel Frederic Short, Royal Navy, and granddaughter of the late Capt. John Robert Benson, Royal Navy.

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THE STATE CONTROL OF TUBERCULIN.

There is an increasing desire in our profession that tuberculin should be placed under State control in two particulars. One is that it should be standardised, so as to be of uniform activity; the other is that its use should be limited to veterinary surgeons. Both are so obviously desirable that we seem in some danger of losing sight of the question of whether either is possible; for veterinary societies pass resolutions supporting them almost as matter of course, with little discussion of their practicability.

Undoubtedly the standardisation of tuberculin would be a good thing, if it could be accomplished. Many private firms and some institutes manufacture tuberculin; and it is well known that the products of different makers are not all of equal potency. But by what legal provisions could the standardisation be accomplished? And could it be accomplished at all without conferring something approaching to monopolies upon a few manufacturers? Without discussing the latter plan, it may be said at once that no British Government would be at all likely to adopt it. This question of interference with vested interests is a serious one; and it is not the only difficulty in the way of the standardisation of a biological product such as tuberculin.

The proposed limitation of the use of tuberculin to veterinary surgeons might be more easy to attain, so far as the mere legislation for it is concerned. But is it likely that any such legislation could be enforced? Of course it would be illegal for laymen to buy tuberculin from abroad and use it; but they could, and would, do so undetected perhaps to a considerable extent. Further, while such legislation would not stop the lay use of tuberculin, it would have the effect of rendering it an absolutely secret practice, which it scarcely is at present—and possibly also tend to systematise it. Ill-considered legislation is apt to defeat its own object; and it seems possible that such legislation as this might even increase rather than diminish the fraudulent use of tuberculin.

A tuberculin of uniform strength in use throughout the kingdom, and available only to veterinary surgeons, would enable us to work under ideal conditions. That may be granted without question; but is it likely that such conditions can ever be obtained? Before making a serious attempt to obtain them, we should do well to carefully consider the practical difficulties that may check us.

SPASM OF THE LARYNX?

I have encountered two cases of this condition, both calling for the prompt operation of tracheotomy. Both occurred under the same conditions of work and weather—work in the hayfield on very hot days. Both appeared to be cases of pure, uncomplicated spasm, as after obtaining relief by tracheotomy the animals were in a short time able to breathe comfortably through the larynx when the hole in the trachea was temporarily closed.

Case I. Subject.—A light cart mare, had been drawing a hay rake.

July 15th, 1907.—This animal was reported to be breathing with difficulty and making a loud noise. I found her obviously distressed, and making a considerable noise during inspiration; membranes very cyanosed. As there seemed no likelihood of a foreign body being present in the pharynx or larynx I diagnosed spasm of the latter, and tried injections of morphia, with liniment externally; getting no relief, and the membranes becoming more cyanosed and mare more distressed, I fetched a tracheotomy tube, etc., as quickly as possible. Returning in a few minutes I found the mare off her legs, so dispensing with any antiseptic preparations I hastily opened the trachea and inserted the tube. In a few minutes the breathing was normal, the membranes a more natural colour, and the mare able to rise. I found on closing the tube the mare was again able to breathe comfortably through the larynx.

Case II. Subject.—A powerful cart horse, nine years old, had been helping to draw a mowing machine.

August 2nd, 1913.—I received a telegram "Come at once, accident in hayfield," consequently I went prepared for wounds, etc., but not "tracheotomy."

I found this animal very distressed, breathing with great difficulty, membranes very cyanosed, but noise was not so noticeable as in first case. Tracheotomy was urgently necessary, and I made hasty preparation.

On lifting the horse's head slightly, to expose the trachea, he fell down, and the operation had to be performed in the recumbent position. Unluckily the animal fell on a heap of dust, and I had visions of septic trouble, but the breathing had practically stopped, and there was no time to move him.

After holding the trachea open with my fingers for a few minutes the horse was able to rise, and I improvised a tube from a piece of lead tubing.

As in the first case, I found the obstruction to the breathing had passed away after a few minutes, and so far as I know there was no recurrence in

either case, although I kept the temporary tubes in for a day or two as a safeguard.

I had the mare under observation for three years afterwards, but she had no return of the trouble, continued to work normally, and I could not detect any obstruction to her breathing, the horse on the other hand, I was given to understand, had been a roarer for some time.

As in neither case was there any coughing to clear the larynx, etc., I conclude these were cases of spasm pure and simple.

HERBERT E. WHITEMORE.

Langport, Somerset.

TETANUS.

About two months ago a seven-year-old Shire mare was sent to be shod and returned with a wound on the right side of the loin. A fortnight later I was asked to see her as they thought she had hurt her back. I found her with nose poked out, ears pricked, tail erected, haw crossing over the eye when head was raised, her hind legs were straddled wide apart, jaws not quite closed. Having some anti-tetanic serum by me, I injected a full dose at the seat of injury. We kept her in slings for five weeks, during which time she stood with hind legs as far apart as ever she could get them. The muscles were very rigid, and she could not move them forward or backward. Her jaws never completely closed, and she fed well all the time. Eventually the rigidity left her tail, she gradually regained the normal use of her legs, and she is now at work in the team.

CHLOROFORM STANDING.

I treated three horses by this method; the first, a heavy Shire stallion, which they could not shoe standing. He took three ounces and went down quietly. He was never any trouble to shoe after this.

Second. A Shire gelding; operation, poll-evil and fistulous withers. He was no trouble.

Third. Last Thursday morning a seven-year-old hunter was sent to be unnerved in the off fore leg for navicular disease. We put two ropes round his neck with two men on each side to steady him.

I put chloroform into the muzzle (air excluded). The place in which we were going to operate was a combination of an orchard and garden. As soon as he got a smell of the chloroform he started off full gallop, and we could not hold him; he went full tilt over some young apple trees, through a row of sweet peas and a tomato bed, knocked one of the men down and broke his finger. I managed to get my rope round a plum tree, and he kept on full tilt round the tree until he wound himself up, taking all the skin off my knuckles. We had put the instruments behind this tree; he galloped over the tray two or three times scattering the instruments, etc., and breaking the chloroform bottle. When he finished

up he was about half chloroformed, and as I had no more handy he came to again. We cast him with the hobbles and chloroformed him down. After the operation he ate a mouthful or two of hay, then began to blow and retch, bringing up mucus through his nostrils; he kept this on for about an hour and then recovered.

He left for home yesterday, sound and all right. When I want to chloroform another horse I think I will put him down first.

J. H. PARKER, M.B.C.V.S.

Faringdon.

CANINE DISTEMPER.

With reference to a paragraph from *The British Medical Journal* which appeared in *The Record* of June 21st anent the causal organism of canine distemper, I thought it might be of some interest to mention that the Director of the Pasteur Institute at Kasauli—Capt. Acton, I.M.S., has informed me recently, that some three years he noted amongst his experimental rabbits, whose numbers vary between 500 and 1000, a fatal epidemic occurring annually or bi-annually, generally at the end of the rainy season or commencement of the hot weather. The condition he believed was identical with canine distemper, the symptoms and course of the disease being in every respect similar.

Proceeding to investigate, he isolated from the trachea of rabbits dead of the condition a coccobacillus, and this he had no difficulty in growing at 35° C. on agar.

Injection of this material into young healthy dogs and kittens set up a condition in them similar to canine distemper and to the epidemic amongst the rabbits. Adult dogs and cats were refractory.

Proceeding further, Captain Acton prepared a vaccine from the material, and it is now the custom at the Institute on the approach of the infective seasons to vaccinate young or any rabbits that it is intended to carry over for some months—or at least those that will not be required for immediate experimental work. The results have been excellent, the disease having, I understand, practically disappeared from the hutches.

In conclusion, I may note that this seems to confirm the contention of McGowan, Ferry, and others.

L. J. KELLY, M.R.C.V.S.

Calcutta.

ABSTRACTS FROM FOREIGN JOURNALS

THE PATHOGENICITY OF THEILER'S TRYPANOSOME.

Vryburg has published (*Tydcshr. v. Veeartsenijkunde*) an article upon this question. It is very probable, he says, that the trypanosomes discovered in healthy cattle in different countries belong to the same species. Laveran makes a distinction between the trypanosome of Theiler and the Transvaalian

trypanosome; but Vryburg is convinced that they are only two varieties of the type *T. Theileri*.

It is generally admitted that this parasite is not pathogenic; for the cattle in which it has been found (either by direct examination of the blood or by cultures) present very few morbid symptoms, or show symptoms which may be attributed to other causes. Theiler, having found the parasite in cattle affected with biliary fever, assigned a pathogenic rôle to it; but, at a later period, he considered the trypanosome to be an occasional parasite, and recognised that the disease of biliary fever is due to a parasite of the red blood corpuscles, which he named *Anaplasma marginale*.

Theiler also found the trypanosome in cattle affected with rinderpest.

A great number of workers have experimented with Theiler's trypanosome; and Vryburg concludes from their results, that if the parasite does not generally produce morbid lesions, we nevertheless cannot be assured that it is totally inoffensive.

When the parasites are so few that direct examination of the blood fails to reveal their presence, they cause little disturbance. When they are more numerous, they induce fever and engorgement of the spleen and lymphatic glands. If the temperature is not taken, the affected animals may only show slight objective symptoms; but it is none the less true that, in subjects attacked by another disease, chronic trypanosomiasis may become acute and engender serious and even mortal disturbances. Vryburg therefore thinks that Theiler's trypanosome, which is found in at least 27 per cent. of Dutch cattle over two years old, should not be considered as a negligible quantity.—(*Annales de Méd. Vét.*)

TRYPANOSOMES FOUND IN A COW IN ENGLAND.

A. C. Coles (*Parasitology*, 1913, Jan., vol. 5, No. 4, pp. 247—252) after summarising the literature that has appeared on the occurrence of trypanosomes of the *theileri* type in the blood of cattle, describes two specimens found by him in the blood of a cow in Dorsetshire.

At the time when the trypanosomes were found, the animal was the subject of redwater, *Babesia bovis* being present in the blood and about 2 per cent. of the blood corpuscles invaded. Two parasites were found in one blood film out of seven examined, and none were found in 20 films made two days later.

The trypanosome measured 98 microns in length including the flagellum. The body measured 88; the flagellum 10; from the posterior extremity to the kinetoculus 37, and to the centre of the trophoculus 44; the diameter of the body 6; and the width of the undulating membrane 3.5 microns.—(*Tropical Veterinary Bulletin*).

EPIZOOTIC MYOCARDITIS OF THE SHEEP.

J. Lesage, in a communication to the Academy of Sciences, describes a disease which he designates by the above name. It is a malady of infectious character, which raged at the commencement of this year amongst several flocks of sheep (South-

down crosses) in the Cote-d'Or district, causing a great mortality.

In one of the flocks the disease appeared at the end of January, and in less than three months destroyed sixty of that year's lambs (the total number of lambs in the flock being 130). The ewes suckling the affected lambs did not contract the disease. On the other hand, the ram which was the sire of these lambs was affected, and may be regarded as the cause of the disease in the lambs. The ram was six years old, and had been introduced into the flock the year before. He had always been in bad general condition, and had been subject to recurrent attacks of vesicular eruption of the lips, œdema of the subglottal region, lachrymation, and evident signs of debility. He was slaughtered during the course of the epizootic, and showed the same post-mortem lesions as the lambs.

Two very apparent symptoms observed in the course of the disease in lambs are an ulcero-membranous stomatitis and disturbances of locomotion. Both these signs may be absent; but there is one post-mortem lesion which is absolutely constant, viz., a degenerative inflammation of the cardiac muscle. The constancy of this lesion justifies the designation of the disease which the author employs, until the etiological rôle of the protozoa he has observed is definitely settled.

The ulcerous stomatitis, which generally precedes the troubles of locomotion, resembles in its symptomatology the affection which is commonly called *brouton* or *muguet* of lambs, the causal microbe of which has not yet been discovered. It is an ulcerative inflammation of the buccal mucous membrane, with the production of a pultaceous whitish deposit. The initial lesions are small perfectly round vesicles of from 1-12th inch to 1-8th inch in diameter, and may be either isolated or confluent.

The disturbances of locomotion consist in a kind of paralysis, which obliges the animals to lie down after walking a few steps, and renders it impossible for them to rise unaided. The lambs, thus confined to the ground, show no acute suffering; they bleat to call their mothers, and, if helped to their feet, take the teat and feed with appetite. They all show constipation.

In rapidly progressing cases, death occurs in two or three days; in others, only at the end of a month or two, the course of the disease in these latter cases being marked by relapses. These are cases in which death occurs suddenly, in animals which have been believed to be completely cured.

Post-mortem, the liver is hypertrophied and discoloured in many cases. The spleen and the other organs, except the heart, have a normal appearance.

The alteration of the heart involves neither the pericardium nor the pericardial fluid; but the myocardium is invariably the seat of important lesions of degeneration. The external aspect of the cardiac muscle presents a spotted appearance, particularly at the point of the organ and in the neighbourhood of the coronary arteries. The spots are yellowish in colour, and contrast with blackish

hæmorrhagic zones; they are either punctiform or extensive, and are distributed irregularly over a surface of a few centimeters. Upon section of the wall of the heart, the naked eye can see that these spots represent yellowish islets involving a quarter or even a third of the thickness of the wall. The point of the heart is often very thin, and reddened internally.

Internally, the auriculo-ventricular and sigmoid valves are very œdematous and bright red in colour. The spots of degeneration are more numerous and more extensive; and at these spots the endocardium is destroyed.

Microscopic examination of sections of the myocardium under a high power shows that the degenerating cardiac fibre becomes hypertrophied and then loses its transverse striation, while at the same time most of its nuclei become segmented by direct division. These nuclei, simple or divided, then become surrounded at the expense of the fibre by a transparent substance which is the product of the degeneration. The process is therefore really one of absorption rather than of inflammation.

Cultural experiments have been made upon the usual media with blood (even in large quantities), with liver-pulp and spleen-pulp, and also with the degenerative substance of the heart. All these have yielded negative results.

On the other hand, microscopical examination of scrapings from the buccal lesions and the hepatic parenchyma has revealed the presence of two interesting protozoa. The first is a spirochæte, which is found in the lesions of ulcero-membranous stomatitis in all the affected animals; the second is a flagellated organism which exists in the hypertrophied liver. Without prejudging the relations which may be established between the two organisms, and without yet being able to affirm that they are veritable agents of the disease, the author describes them as follows:—

The *spirochæte* appears in the form of long undulating filaments, very thin, tapered at the extremities, and forming a spiral, the length of which varies from 12 to 30 microns, with a thickness of from 0.1 to 0.4 micron. The ordinary number of curves of the spiral is from three to four for the most common forms (those about 15 microns long); but it is from 8 to 10 for longer forms which are undergoing division. The organism takes stains with difficulty, and remains very pale in preparations made by Giemsa's method.

The *flagellate* organism of the hypertrophied liver should be compared with the parasite described by Rivolta in 1881 under the name of *monocercomonas hepatica*, and discovered in the livers of young pigeons. It stains easily by Giemsa's method.

It is destitute of an undulating membrane. Some of its forms are fusiform, and provided with two flagellæ situated at the two extremities of the protoplasmic body. Others are round in shape, and are without prolongations. The *fusiform* organisms have a length of from 2 to 4 microns without the flagellæ, each of which is from 3 to 4 microns long. The protoplasm of these forms is granular, and the nucleus is diffuse. The *round* forms have nearly

the dimensions of red blood corpuscles; their nuclei are better defined than those of the fusiform organism, and form variable figures.

These round forms are often seen in masses comparable to those which have been described in connection with the trypanosome of the rat under the name of *pseudo-leucocytes*.—(*La Semaine Vétérinaire*).

W. R. C.

A STUDY OF THE NORMAL BLOOD OF THE CARABAO (BUFFALO).—W. H. BOYNTON. (*Philippine Bur. Agr. Bul.* 21, 1912, pp. 12).

Twenty-five animals in normal condition, from 2½ to 6 years of age, were used in the studies here reported.

In the circulating blood of supposedly normal carabaos over two years old the red corpuscles were found to average 6,057,520 per millimeter. The average percentage of hemoglobin was 92.6. The average number of leucocytes was 10,389 per cubic millimeter. The average specific gravity found was 1.0532. The relative volume of corpuscles to plasma was found to be 29.1 per cent. of corpuscles to 70.9 per cent. of plasma.

The average time for complete coagulation of the blood was found to be three minutes and 16 seconds plus.

Of the five varieties of leucocytes found in the peripheral blood, 48.5 per cent. were lymphocytes, 4.6 per cent. large mononuclears, 34.5 per cent. polynuclears, 11.5 per cent. eosinophiles, and 12 per cent. mast cells.

THE INFECTIVITY OF PARTS OF ORGANS OF GLANDERED HORSES, THE COMPLEMENT FIXATION REACTION WITH GUINEA-PIGS, AND SOME CURATIVE AND IMMUNIZING TESTS.—H. MIESSNER (*Centbl. Bakt. etc. I, Abt., Orig.*, 64, (1912), *Festschrift f. Loeffler*, pp. 121-151, pl. 1).

Only one quarter of the guinea-pigs infected with pieces of the organs of glandered horses became glandered. According to this, the results obtained with the infection test must be interpreted with care. Guinea-pigs infected with defibrinated blood rarely took the disease. Guinea-pigs infected with either the organs or blood of glandered animals can only be considered glandered when the findings of the complement fixation test have been confirmed by the autopsy findings, or the animals have gone through the course of a light form of the disease during their lifetime. Therefore the complement fixation tests cannot be relied upon.

Guinea-pigs were treated with mallein or a killed culture of glanders bacillus for the purpose of determining whether the serum of these animals behaves as does that obtained from horses pre-treated in the same way. This was answered in the affirmative with the aid of the complement fixation test. Artificial and natural gastric juice did not seem to have any particular bactericidal action for the glanders bacillus. Glanders bacilli placed directly in the stomach of guinea-pigs produce glanders in these animals. Horses which were fed cultures of

bacillus mallei, given with the food, did not contract the disease.

Immunizing tests with antiformin solutions of the glands bacillus and guinea-pigs showed that a single or a double treatment (given subcutaneously or intra-abdominally) did not produce an immunity in these animals. The salvarsan treatment was not effective for glanders.

MORTALITY OF STOCK ON MANGELS.—C. ASTON
Jour. New Zeal. Dept. Agr., 3 (1912), No. 3, pp. 214-215; *Vet. Jour.*, 68 (1912), No. 445, pp. 425-427.

The author reports briefly on investigations conducted following the loss in August of cattle and pigs which had been fed on mangels. Analyses of these mangels made during September showed the juice to contain 0.06 per cent. of nitrogen as nitrites and nitrates. Nitrites were present in traces, a fact which seems not to have been recorded before in mangels, although mentioned as being found in other plant juices in small amounts. "The amount of nitrogen found is equivalent to 0.43 per cent. of potassium nitrate, and a cow eating 60lbs. of mangel juice would consume 116 gm. (4 oz.) potassium nitrate (mangels contain 95 per cent. of juice)."

F. E. P.

FILTER PASSERS.

At the Seventeenth International Congress of Medicine, in Section IV., Bacteriology and Immunity, under the presidency of Prof. G. Sims Woodhead, on Monday, Aug. 11th:—

Prof. F. LOEFFLER (Greifswald) opened a discussion. He said that since he and Frosch showed in 1898 that the virus of foot-and-mouth disease passed through filters a large series of diseases had been attributed to "filter passers." Amongst these might be mentioned yellow fever, dengue, pappataci fever, poliomyelitis, and infective pleuro-pneumonia of cattle; recently it had been asserted that the infective agents of scarlet fever, measles, and typhus fever also belonged to this group. He pointed out that the capacity of a virus to pass through a filter told nothing of its nature except that it must be of minute size. The virus could be characterised only by its power to reproduce the disease on inoculation. Attempts to cultivate the filter passers in artificial media had in general been unsatisfactory; but success had been achieved in certain instances. Thus, the virus of infective pleuro-pneumonia was cultivated inside collodion sacs in the peritoneal cavity of rabbits, and Bordet obtained growths on blood agar. The parasite in this instance was relatively large and its filtrability was prevented if there was too great an amount of albumin in the fluid to be filtered. The fowl plague virus also grew in artificial media, as was proved by the fact that the minimal infecting dose was the same after repeated subculture as in the original culture (Marchoux, Landsteiner, and Berliner); this parasite required intact blood corpuscles for its growth.

But in other instances, e.g., foot-and-mouth disease, attempts at cultivation had failed. Immune sera could be obtained by inoculation with large amounts of cell-free infective material—e.g., cow-pox lymph. In conclusion, Prof. Loeffler urged that in view of the great importance of filter passers in the etiology of disease, laboratories should be devoted to the study in all countries.

Sir JOHN M'FADYEAN (London) said that the demonstration of invisible viruses marked a new epoch. The invisibility of a virus was of more interest than the fact that it was a filter passer. The term "filter passer" was not a precise one. Whether bacteria could pass through a filter or not depended on (a) the texture and thickness of the filter wall; (b) the pressure under which the filtration was carried out; (c) the duration of the filtration; (d) the composition of the liquid in which the bacteria were suspended; and (e) the form and dimensions of the bacteria. By way of control it was necessary to show that a small but visible organism in the fluid was held back by the filter while the virus passed through. In the case of human diseases it might be difficult to prove the presence of the virus unless a susceptible animal could be found. In regard to the reproduction of the natural disease by inoculation there were pitfalls. Thus, in the case of swine fever cultures of a bacillus, which was at one time thought to be the cause of the disease, produced the characteristic lesions on inoculation, but the experimental disease was not contagious. On the other hand, the inoculation of the filtered virus of infective pleuro-pneumonia practically never gave rise to the lung lesions characteristic of the natural disease, and the experimental disease was non-contagious; but the same held good of inoculation with the unfiltered infective material. It was a striking fact that the great majority of the filter passers had not been obtained in artificial culture. This might be due in some cases to their being of protozoal nature—e.g., the viruses which were transmitted by insects, such as yellow fever. Again, the occurrence in certain instances of infection by the mouth pointed to the bacterial nature of the parasite. The occurrence of saprophytic invisible filter passers had not yet been demonstrated, but this might be due to ignorance of the conditions necessary for growth. It was probable that great advances would be made in the cultivation of invisible organisms, and he agreed with Prof. Loeffler that the study of this group should be subsidised.

Dr. W. FORNET (Berlin) reported that he had effected the pure culture of the vaccinia virus. The vaccine lymph was sterilised by the addition of ether, which had the advantage of killing off associated organisms and at the same time of not harming the specific agent; the ether could be readily removed by evaporation and its action thus stopped. The lymph which had been so treated remained active after incubation for months at 37° C., and was therefore suited for use in the tropics. Unlimited growth occurred in culture media without any visible alteration, and the infective dose after repeated subculture precluded the idea that proliferation of the virus had failed to take place. Certain microscopic appearances in the cultures after staining by Loeffler's method were described as characteristic.

Prof. KRAUS (Vienna) described experiments with the filtrable virus of fowl plague. His work emphasised the importance of testing various species of animals and of the same species at different ages. Also differences in various strains of the same virus were brought out. A certain virus isolated from a case of fowl plague was found to be infective for both young and old geese when inoculated intramuscularly, whereas the "laboratory" strain of virus failed to infect old geese, which, however, succumbed to intracerebral infection. The serum of old geese vaccinated with the avirulent strain had a prophylactic action against inoculation with the virulent virus. No growth was obtained in artificial media.

Dr. LAMBERT, along with Dr. Steinhardt (Columbia University), had cultivated with success the vaccinia virus in rabbit's cornea along with blood plasma *in vitro*. They employed vaccine lymph freed from glycerine by dialysis, and obtained a number of cultures without the presence of bacteria. The material used for cultiva-

tion was capable of producing only a small number of pustules on inoculation, but after growth for 18 days the culture gave rise to a confluent eruption. They concluded that multiplication of the virus had occurred along with the living growing corneal epithelium.

Prof. G. SIMS WOODHEAD (Cambridge) had failed to obtain positive results on inoculation with filtered vaccine lymph.

Prof. C. J. MARTIN (London) described experiments conducted by Dr. Todd, of Cairo, on the virus of rinderpest, which showed that the causal agent of this disease did not pass through a Berkefeld filter. Starting with infective citrated blood which was active in a dose of 0.001 c.c., and subjecting this to centrifugalisation, the following results were obtained: the top layer was non-infective, the layer of red corpuscles contained the infective agent in only a hundredth of the concentration of the original whole blood, and the greatest part of the virus resided in the leucocyte layer. This appeared to suggest that the infective agent might be situated within cells.

Dr. ALAN B. GREEN (London) had compressed the contents of vaccinia exudates into citrate solution, and so obtained a clear fluid which could be readily filtered. Every filtrate failed to give positive results on inoculation.

Prof. LOEFFLER, in concluding the discussion, said that in many cases there was a justifiable doubt as to the authentic character of alleged filter-passing viruses. Negative results had been obtained with trachoma. Præschner, who had failed to pass the virus of rabies through filters, found that bacilli could be demonstrated in the infected tissues by means of an alkaline solution of methylene-agar. No generalisation of the facts of one disease could be applied to another.—*The Lancet*.

ROYAL SANITARY INSTITUTE CONGRESS.

CONFERENCE OF VETERINARY INSPECTORS.

BOVINE TUBERCULOSIS: ITS DIAGNOSIS. By W. P. STABLEFORTH, F.R.C.V.S.

Mr. President and Gentlemen,—In acceding to the request of the local secretary of the Veterinary Conference of this Congress that I would write a short paper for discussion, I agreed, not that I had much original matter to bring to your notice, but rather to re-introduce an important subject for debate, one which we all know something about, and one that in view of the present legislation, would lend itself to a useful discussion. I propose to treat this subject as a veterinary inspector rather than a pathologist, with a view of arriving at a fairly correct diagnosis of the disease in life.

CLINICAL APPEARANCES.

The clinical appearances are exceedingly variable, depending on the progress of the disease, the lesions, and their situation. Symptoms may be entirely absent in the early stage, and the writer has often found the most healthy to external appearances a member of the group which had reacted to the tuberculin test.

Generally speaking, the advanced tuberculous cow is unthrifty, the skin tight and adherent to the subjacent tissues, emaciated more or less, and often changes colour, becoming lighter in shade; the author has noticed this particularly in red cattle. Edema of the intermaxillary space may be present, and enlargement of the glandular system; this is often pronounced in the region of the tongue, throat, neck, and when so, the patient often makes a variable noise, according to the glands involved, and the degree of interference of respiration. The glands principally attacked in this region are the parotid, sublingual, sub-maxillary, and

post-pharyngeal. The animal may salivate and show difficulty in deglutition if there is any ulceration of the mucous membrane of the tongue or pharynx, or protrude nose and make a decided noise during respiration should the ulceration be in the larynx. If the lesions are confined to the glandular structures, the patient may only suffer inconvenience when feeding or during exertion.

In East Devon, where actinomycosis is very prevalent, the writer has found a very large percentage of these enlargements to be due to the actinomycetes. One must also be guarded when dealing with fat cattle and pedigree stock which has been forced from birth; there is frequently an excessive accumulation of adipose tissue about the neck and throat, and when feeding or exerted, noisy breathing is often heard. In tubercular lesions of the throat, the subject may cough frequently, much louder and more pronounced than when arising from the chest; the slightest irritation is sufficient to excite an attack. When the disease is located in the lungs the cough is soft, muffled, deep, and if accompanied with pleurisy the cough causing pain is short, suppressed, and produced with a careful movement of the abdominal muscles and practically a fixed thoracic wall. The cough may be paroxysmal, easily excited by pressure on the trachea, sudden atmospheric changes, and exertion; in fact a tuberculous cow, unless in the very early stages, cannot stand exertion, and will be found lagging behind her fellows. Frequent coughing without any decided cause ought to arouse suspicion.

The conformation of the chest wall, and the spareness of the ribs in most tuberculous cows lend themselves to aid diagnosis. The contents of the thorax are involved in about 90 per cent. of cases. The respiration may be accelerated, showing towards the end of the expiratory movement a secondary effort, similar to an animal affected with emphysema. Auscultation of the thorax in advanced tubercle, either with the stethoscope or unaided ear, reveals nearly every variety of sound, and this is easily understood when one remembers the great variation of the lesions which may be present, tuberculosis of the bronchi, lungs, pleura, pericardium, heart, with compensatory emphysema, adhesions, deposits, consolidated caseous patches, and enormously enlarged lymphatic glands.

Pulmonary tuberculosis should always be suspected when one finds a frequent cough, nasal discharge with emaciation, and if on auscultation the respiration is rough, inspiration rasping, expiration prolonged, blowing; with absence of vesicular murmur, and should snoring sibilant *râles* or cavernous *souffles* be detected, the inspector may be pretty certain from a clinical examination that he is dealing with tuberculosis.

In the early stages of tubercle of the respiratory tract there is little expectoration or nasal discharge, but later this is considerable. The expectorate is viscid, inodorous, greyish, occasionally offensive, containing pus, and yellowish grey caseous flakes. The symptoms of tuberculosis vary so much, depending on the organ attacked, that it is difficult to lay down any fixed routine for diagnosis, save that the examiner should remember that by far the greater number will be found in dairy stock, and the older the animal the more likely it is to have contracted the disease.

The general appearance must be taken into consideration—unthrifty conditions, tightness of the skin, dry staring coat, accelerated respiration, nasal discharge, cough, intermittent or persistent diarrhoea with tympany particularly if commencing with a newly calved animal, are all suggestive, and perhaps one of the most important symptoms during life is the enlargement of the superficial lymphatic glands, for the lymph glands are the most common seats of the disease. The glands which may be examined during life are the sub-maxillary, sub-lingual, parotid, prescapular, prepectoral,

precurral, tracheal, and cervical (if decidedly enlarged), mammary or superficial inguinal. Those at each side of the trachea at entrance to throat, between the two first ribs, can often be felt on palpation.

Tubercular Mastitis.—Tuberculosis of the udder is a chronic lesion, seldom a primary one—usually a secondary infection from the abdominal cavity—or it may be a generalised lesion; the entire gland is occasionally affected, but it is usually one quarter, perhaps the posterior quarters are most often involved; the gland slowly increases in volume by a progressive chronic interstitial hypertrophy of the connective tissue. At first a small hard non-inflammatory growth can be detected; this often escapes notice, as the character of the milk for some considerable time remains unaltered. It is remarkable how quickly the growth proliferates, until the whole secreting tissue is replaced by a hard fibrous mass, which has been described by many as of wooden hardness. The patient evinces little or no pain on pressure, and the milk remains normal for some considerable time; this fact accompanied by the fibrous non-inflammatory condition of the quarter assists diagnosis considerably. The growth commences usually at the upper part of the gland, the milk gradually becomes less in quantity, thin, bluish, mixed with coagula, and later the secretions may be of a yellowish colour containing flakes. It is not often purulent as in acute or catarrhal mammitis. Rarely caseous centres break and discharge on the surface, the pus containing deep yellow particles of caseous material. The enlargement of the quarter is permanent, and is not followed by atrophy as in most other affections of the udder. The writer does not believe it possible to find tubercle bacilli in the milk unless there is a tuberculous lesion in the gland. A great number of competent authorities think otherwise, but surely it is because at certain stages the lesions are so minute as to escape both macroscopic and microscopic observation.

[The essayist then reviewed the methods of microscopic examination, tuberculin and inoculation tests, and concluded that section with the following extract].

The microscopic appearance of a tubercle, according to Stockman, is as follows: In the earlier stages the tubercles consist of a few large epithelioid cells, which have come from the fixed tissues, and a few leucocytes can be found; the bacilli may be so few as to escape notice. About the tenth day large multinucleated cells appear, known as giant cells; these have a homogeneous yellowish-looking centre with several nuclei towards the periphery.

Older tubercles show giant cells to be more numerous, yellow, structureless, caseous patches are to be seen, fibrous tissue will be seen at their margin, and some encapsulated and showing infiltration with salts. The bacilli will be seen, after suitable staining, between the cells and inside the giant cells. Many of the nodules will have undergone caseous necrosis, and have lost the above appearance.

Giant cells are found in lesions due to other organisms than the tubercle bacilli, such as actinomycosis, chronic interstitial mammitis. The presence of a lesion showing giant cells and acid-fast bacilli (staining after Ziehl Neelson) is diagnostic of tubercle.

DISEASES SIMULATING TUBERCULOSIS.

The diseases which may be confounded with tuberculosis are Actinomycosis, Johne's disease, and Parasitic gastro-enteritis.

Actinomycosis.—This malady is one which may easily be mistaken for tubercle from a clinical examination. One of its most common seats is the throat and tongue and its glandular structures. It is also met with in the udder, and cases are on record where the lesions of tubercle and actinomycosis have been growing side by side. Like tuberculosis, the parasite excites a fibrous prolifer-

ation, which causes hypertrophy and permanent hardness. At the onset the nodules are more discrete than those of tuberculosis, but later become confluent, and at this stage it simulates tubercle. Actinomycosis has a greater tendency to suppurate and discharge. In the udder the growth is usually at the base of the quarter which points to infection by way of the teat. (Stockman).

To establish a diagnosis it is necessary to resort to the microscope. The parasite is seen in animals in colonies known as the ray fungus; they can be seen without any previous staining; also stain well by Plants and Gram's method, although the appearance in the discharge of small yellow or colourless grains, frequently cretaceous, are characteristic of actinomycosis.

In the absence of material for microscopic examination, the writer places the patient on the iodine treatment and has found that if the enlarged glands are due to the actinomycetes or discomycetes, there is a rapid diminishing of the growth as soon as the patient is saturated with iodine. A positive reaction to tuberculin does not prove otherwise, for the reaction may be due to tubercle located in some internal organ.

Johne's Disease.—This is another of the diseases closely allied to tuberculosis, and the writer has not the slightest hesitation in saying that in years past it was the rule to attribute at least 90 per cent. of the cases of chronic diarrhoea to infection of the intestinal tract with tubercle bacilli. It is extremely difficult to differentiate clinically tuberculosis from Johne's disease, and this must be done by eliminating the presence of any other disease.

Intestinal tuberculosis is characterised by intermittent or persistent diarrhoea, with the presence of tympanites after food. The appetite is capricious, and one will most probably find the superficial glands enlarged or other evidence of tuberculosis.

In Johne's disease the patient feeds normally, the appetite is good, rumination continues, and an infected animal will feed up to the finish, the character of the diarrhoea is most offensive, and tympany is hardly ever present. The tuberculin test will not always differentiate, although it will in the majority of cases.

A few weeks ago the writer recommended the destruction of a Jersey cow with emaciation, chronic diarrhoea of eighteen months standing; she was classified as tuberculous. Failing to react to tuberculin, the diagnosis was altered to Johne's disease. On post-mortem the cow was found to have generalised tuberculosis. An animal affected with Johne's disease will react to avian tuberculin, but not to bovine tuberculin; but we have not yet had sufficient experience of this test to fix its value.

It is more than probable that ere long we will have a diagnostic vaccine prepared from cultures of Johne's bacillus, as reliable for testing cattle for Johne's disease as tuberculin is for tuberculosis.

Parasitic Gastro-Enteritis. A disease characterised by a chronic fetid diarrhoea, rapid wasting, anæmia, and œdema, occurring in young cattle from six months to three years old, and occasionally in older animals. It may also be accompanied by parasitic bronchitis; microscopic examination (with low power) of faeces will readily reveal ova and embryos of strongyles. The most common parasites causing this malady are *S. contortus*, *S. flicollis*, *S. gracilis*, etc. The disease resembles both Johne's disease and tuberculosis of the gastro-intestinal tract.

The writer has found the malady curable in a large number of cases by the administration of chlorodyne with lysol or coal-tar creasote.

The PRESIDENT said the stock owner and the authority would be largely affected by the correct or incorrect diagnosis of the veterinary inspector. There were points in the paper which would bear further

elucidation, and he hoped they would have a good discussion.

Mr. BOND (Plymouth) said he had been asked to open the discussion on the valuable paper they had just heard read, but he was somewhat taken aback, because he said this question had within the last 35 years come quite to the front, and they found the word "Tuberculosis" slipping off their tongues, much as the word "Mesopotamia" did from the tongue of the old lady who used to be so fond of reading the Bible. (Laughter). The first recollection he had of tuberculosis was in an article which was published in the old *Veterinary Journal*, which was then edited by John Gamgee. It was there called "Sandy lungs." To-day, however, everybody had got hold of the word "Tuberculosis." They had found that young cattle were exempt from its ravages. Tuberculosis was a question of housing. Wild cattle did not get it until they were put into captivity. The reader of the paper had said that the tuberculin test was to be relied on; but it was not considered so. They were not justified in saying that if they applied the tuberculin test and there was no reaction, that the bullock was absolutely free from tuberculosis. The search for the bacillus was very difficult, but one of the highest authorities had stated that the test for it was easier than the final test for anthrax. They had as fine a means of getting at the facts as they ever would. He did not see the necessity for a full time man being appointed. He could do the work as well as a full time man. If he were called in and asked his opinion by the local authority, they wanted to know whether an animal was tuberculous or not. It was the business of the veterinary surgeon to find out whether the animal was right or wrong, and they must be men enough to back up their opinion before they gave the certificate, and not after. (Hear, hear). It used to be considered a great proof if the animals were wasters, but that was quite a distinct disease and easily noticed, and did not apply to tuberculous animals.

Dr. H. G. GAMLEN (West Hartlepool) said, from the experience he had had of treating human beings for tuberculosis, there was no doubt that the tuberculin test was most reliable with regard to cattle, but he could not agree with some remarks that he had heard there with regard to the tubercle bacilli. He tested thirty milks last week, and he found the tubercle bacilli in nine of them. Therefore he could not see the difficulty that some of them had found. He did it by the ordinary means that they used with regard to sputum. He also used the anti-formaline method. The same result could not have been got by ordinary methods of detection. He used the electric centrifuge, and examined 93 cells, three from each milk.

The PRESIDENT said nineteen or twenty yielded no bacilli. They also gathered that it was not at all sure whether these twenty samples were affected or not, but that Dr. Gamlen did not discover that they were. They must not expect to have perfection. If they did, they would surely stop in their work; if they could not give a counsel of perfection they must allow a little elasticity on the other side. He was very pleased to hear that remarks had been made of this character.

Mr. J. A. DIXON (Leeds), remarked that the question of bacteriological examination of milk samples was now of extreme importance to veterinary inspectors, and he did not think they could collect information on a more valuable or more important point. He had had some experience as an amateur bacteriologist. He had tested many samples with the view of finding the tubercle bacilli, but try as he would he had failed to find it. He was sure the microscope was not at fault. He was quite certain that, as Dr. Savage had said, with the most efficient operations and the best apparatus, mistakes would be made sometimes and cases would be missed; they had an opportunity to try this in every

day work under the Tuberculosis Order. He had known cows which had presented unmistakable evidence of tuberculosis of the udder to be examined by veterinary inspectors under the Tuberculosis Order; and, not satisfied with the clinical appearance, they had obtained samples of the milk of the cow and disregarded the clinical evidence. He thought that that was wrong. If they found the bacillus in the milk it strengthened them, but if they did not find it they should be quite content to go on without it. They should not regard the milk examination as superior to the clinical examination. The collecting of the samples was important and must be carried out by the inspector himself and under proper precautions. They would get a variety of microscopic organisms, the one-twelfth lense was quite a good one, but it was necessary to have a mechanical stage. He was surprised to hear Mr. Bond say that animals affected with tuberculosis did not become wasters. It had been his (the speaker's) short experience that wasters was an outstanding feature of old cases of tuberculosis. In the first month of the operation of the Order they slaughtered thirteen cows in his district and twelve of these were wasters. He thought one was slaughtered because she had tuberculosis of the udder. There was considerable danger in the diagnosis, as he had found in one or two cases. The tuberculin test was of the greatest value, and that was why he took up what some people regarded as a strong and arbitrary position with regard to agriculturists. Believing in the tuberculin test so thoroughly, he thought the farmer could, if he liked, obtain this test for every cow. A man could depend upon keeping his cows free from tuberculosis, and it was only a matter of carelessness and indifference that he did not do so. He (the speaker) had the utmost confidence in the tuberculin test. Quite recently he had noticed in some professional circles that there was a tendency to question the reliability of the tuberculin test. He thought the day had passed when veterinary inspectors ceased to believe in the tuberculin test. (Hear, hear). The duties of our veterinary inspectors were most exacting, and the tuberculin test when properly applied was well worth while.

Mr. MALE thought they ought to discuss this matter thoroughly before passing on to another subject. There was one point which Mr. Stableforth made which he (the speaker) took exception to. Mr. Stableforth said that veterinary surgeons were not qualified for bacteriological work, and implied that they were not able to carry this out. That was hardly stating the facts. As Mr. Stableforth showed, he was a bacteriologist. Any one reading his paper could see that he was perfectly able to examine. Many other veterinary surgeons in the room were competent to carry on bacteriological work under this Order. (Hear, hear). Some had gone to the trouble of taking a bacteriological course under experts, and they had taken every means to rub up their knowledge on this subject. He did not think, therefore, that Mr. Stableforth's statement was a correct one. He (the speaker) was also glad to hear the reliability of the tuberculin test taken up. In certain quarters the tuberculin test was rather taken exception to. There was one point which he thought they should insist on, that tuberculin must not be allowed to be used by veterinary chemists, farmers, and other people, and so destroy the utility of the test. (Hear, hear). In his own district veterinary chemists had gone round testing the cows as soon as the Order came in, at ridiculously low fees. Let them have tuberculin from the Pasteur Institute, or from the Royal Veterinary College, or wherever they liked, but they should see that it was not sold to those not qualified to use it.

Dr. H. KERR (Newcastle-on-Tyne) said he thought that in the memorandum that accompanied the Tuberculosis Order of 1913, the direction to examine the milk

microscopically emanated from the Medical Officer of Manchester, but he did not say that this microscopic examination should be the final examination. As to the practicability of clearing herds of tuberculosis, that was a point of which they were rather proud in Newcastle. In two or three large dairies the tuberculin test had been of the greatest assistance in keeping the tubercle from the milk, and in one or two of the large dairies they had a tuberculin milk test, which was used by the dairy people, and they sold their milk at market prices. During the present year, speaking off-hand, they had taken samples haphazard in the market for examination for tubercle bacilli, and from one big dairy they secured quite a number of tuberculous samples. In another big dairy, which had a very wide source of supply, they guaranteed the tuberculin test, and in that case the authorities had not one sample containing the tubercle out of the large number examined. The examination for the bacillus of tuberculosis was done at Newcastle by our eminent bacteriologist.

Dr. J. H. GARRATT (Cheltenham) said in his opinion the examination must be done by an expert to be reliable, otherwise the results were worse than useless. (Hear, hear).

Mr. R. GLOVER (West Ham) remarked that he wanted to get information, if possible, as to how local authorities were relying on bacterial examination locally, or how far they were consulting institutes where experienced, trained men were engaged.

The PRESIDENT replied that to a Congress of veterinary inspectors that was of extreme importance. It had been very commonly expressed that day that an expert should be called upon to examine the milk. The first question that came to his mind there was, what was an expert in the examination of milk for tubercle bacilli? That he was afraid, they could not define there, because they had no means of doing so. But as an individual who was engaged in the microscopic examination of pathological problems before many of those who were "expert" at the present day had much knowledge of any professional matters at all, he could not conceive what an expert was if he was not a veterinary surgeon, who had been educated in pathological processes, had had two years in a laboratory, and had rubbed up his knowledge afterwards in a special course. What expert knowledge did they require other than this to render a man capable of examining for tubercle bacilli in milk? (Hear, hear). Prof. Delépine, whose expert knowledge nobody could possibly question, nor the breadth of view with which he always faced such matters, had said that the properly qualified veterinary inspector had the power of picking out infected cows and notifying certain dairies as harbouring the tubercle bacilli. They could go to the dairy, pick out the cow, remove her, and insure that the supply of milk was free from infection.

Mr. J. A. DIXSON (Leeds): That is so.

The President said that was all they wanted (Hear, hear). The veterinary surgeon was quite capable of examining for tubercle bacilli and rendering that milk supply perfectly safe; and what was worse, he attributed to him the power to diagnose tuberculosis by the ordinary means of observation. He valued most highly the application of the tuberculin test if it was carried out in a proper manner. But even the value of a tuberculin test would depend very largely on the individual who carried it out. There was no question about that (Hear, hear). He thought himself that really they had the machinery that was capable of rendering milk practically free from the tubercle bacilli which emanated from the bovine. Whether legislation on the point was sufficient to make that applicable was another matter.

Mr. STABLEFORTH, in reply to Mr. Bond and the tuberculin test he was surprised to hear him say that it was unreliable. The only unsatisfactory thing about it was that in an advanced case it sometimes needed con-

firmation by the biological test. With regard to Dr. Gamlen and the milk mistakes, he thought Dr. Gamlen said he had examined thirty cases, with positive results in nine. He (the speaker) asked what other tests were applied to the remainder of the milk. Had the others been subjected to a biological test, he would have found how they stood.

Dr. GAMLEN said a large proportion of the others would have tuberculin.

Mr. STABLEFORTH said he was afraid Mr. Male had misunderstood him in regard to a veterinary surgeon not being equipped. He (the speaker) did not say that they were not capable of making a bacteriological examination of milk, but he did say that in a difficult case they were handicapped in giving a correct diagnosis. He was acting for the Devon County Council, and part of his instruction was not to apply the tuberculin test more than was necessary.

VICTORIA VETERINARY BENEVOLENT FUND.

The quarterly meeting of the Council of this Fund was held at 10 Red Lion Square, London, on Thursday, July 3rd. There were present Messrs. Dunstan, Slocock, Sumner, Garnett and Shipley.

The minutes of the previous meeting were read and confirmed.

On the proposition of Mr. S. Wharam, seconded by Mr. Abson, Mr. R. C. Trigger, J.P., was unanimously elected President for the ensuing year.

Messrs. Freeman Barrett, P. J. Simpson, E. A. West, and W. Burt were elected Vice-presidents.

Mr. SHIPLEY was re-elected Secretary and Treasurer on the proposition of Mr. Abson, seconded by Mr. Garnett.

SECRETARY'S REPORT FOR THE QUARTER.

To the Members of the Council of the Victoria Veterinary Benevolent Fund:

The annual meeting of the Society was held at 10 Red Lion Square, London, on Wednesday, June 4th.

First, I think, I should call to your notice the handsome donation of a cheque, value £70, received from Mr. P. J. Simpson, of Maidenhead, the result of his efforts in producing a play for the benefit of our Fund. I have received from him the following letter:—

Maidenhead, May 13th.

Dear Sir,—I have very great pleasure indeed in enclosing you a cheque for seventy pounds as a donation to the Victoria Veterinary Benevolent Fund.

This amount represents the profit on the performances of "Sweet Lavender," and the generous result of my appeal to my clients and friends for donations to the Fund. I enclose you a short balance-sheet showing how the amount is arrived at.

I leave the disposal of the amount to the discretion of the Council of the Fund, but I throw out the suggestion that if sufficient money can be obtained to add to it, and ensure a place for a boy or girl in some institution, that is what I should like to see it used for, but this is only a suggestion.—Faithfully yours,

P. J. SIMPSON, (Signature), F.R.C.V.S.

We owe a debt of gratitude to Mr. Simpson for the work he has done for us, and can only hope that this will be emulated by other members of the Council. I shall be glad of your instructions as to the disposal of this sum which I have temporarily placed on deposit.

Financial Statement.—We have expended in the half year to June 30th £179 7s. 4d. Our income has been £257 17s. 5d. We have therefore a balance of £81 2s. 1d. Outstanding subscriptions amounted to £60 15s. Dividends £48 3s. 9d., making a total, if all outstanding

subscriptions are paid, of £190 Os. 10d. to meet a liability of £174 for relief. If any fresh cases occur this will leave practically no money to help, and no balance for incidental working expenses.

We have now thirty-two members of the Council. If I could only induce them to find two subscribers each to our Fund how much better off we should be.

We are also greatly indebted to the veterinary press for the help they have given us, and I especially appreciate very much their kind remarks.

I have to report the death of Mrs. Johns, which occurred in Edinburgh in a nursing home. I have received communications from the Secretary of this home referring to the final expenditure for funeral expenses, and would suggest to you that we remit a cheque for two pounds towards these. A sum of three pounds has already been remitted by the National Veterinary Benevolent and Defence Fund towards this object.

I would recommend that the grants to all the old recipients be continued.

Further investigations in the case of Miss Worsley have been made, and on the recommendation of Prof. Dunstan, a cheque for ten pounds was remitted.

Further applications for relief have been received from Mrs. Shivas. On the authority of the Finance Committee a cheque for two pounds was remitted. May I suggest that a grant of 5s. per week be made in this case.

An application from Prof. O'Connor, Secretary of the committee in Ireland, on behalf of Mrs. Margaret Walsh, referred from the last Council meeting, has been considered by the Finance Committee, and an immediate grant of five pounds was made on their recommendation, and I suggest that a further weekly grant of 5s. be made.

I regret that many annual subscriptions are still in arrears, in fact some £60 is required for this quarter. I hope, however, to give them all a reminder in the course of time. I wish I could instil in the minds of those subscribers that the unnecessary expense in postage and literature which is thus entailed materially lessens the amount available in the working of the Fund.

A few new subscribers have been enrolled since the last annual meeting.

List of New Subscribers, from April, 1913.

Bowden, J. Scott, Whitehaven	£1	1	0
Vaisey, T. L., Board of Agriculture	10	6	
Alexander, T. J., Kinsale, Ireland	10	6	
Cundall, F. H. W., Swindon	10	6	
Sewell, A. J., London	5	0	0
Watson, A., Dublin	10	6	
Marriott, S. W., R.V.C., London	10	6	
Anderson, W. H., Uxbridge	10	6	
Meadows, D., India	3	0	0

Mr. GARNETT proposed, and Mr. Slocock seconded, that the donation from Mr. Simpson be left on deposit at present with a view to attempt to carry out his wishes.

The SECRETARY pointed out that a sum of £90 would be required to get a child into a charitable institution with a view to education.

Mr. Simpson gave a further cheque of £3 4s. 5d., donations received since the remittance of the last cheque.

On the proposal of Mr. Abson, seconded by Mr. Garnett, a hearty vote of thanks was given to Mr. Simpson for his gift, and the Secretary was instructed to write expressing the Council's gratitude.

Proposed by Mr. Sumner, and seconded by Mr. Burt, a sum of £2 be sent to the Secretary of the Home in Edinburgh towards the cost of the funeral expenses of Mrs. Johns, an old recipient.

The Council confirmed the action of the Finance Committee in making grants to Mrs. Shivas and Mrs. Walsh.

A weekly grant of 5s. each was voted to Mrs. Shivas and Mrs. Walsh, on the proposition of Mr. Burt, and seconded by Mr. Wharam, the finances of the Fund being insufficient to make a larger allowance.

Cost of Tuberculosis Order in Cornwall

At the quarterly meeting of the Finance Committee of the Cornwall County Council, the Chairman said that at the last meeting a considerable sum was provided for the matter of tuberculosis in cattle, and although the Order had been in operation only two months, accounts amounting to £363 12s. had been received by the Contagious Diseases (Animals) Committee. The special point which should be brought to the notice of the Committee was the very heavy charges made by the veterinary surgeons for examining the animals.

The Hon. John Boscawen said a sub-committee had been appointed to consider the whole question, and he thought it would be wise to postpone the payment of the bills until the sub-committee had met.

The Chairman inquired whether the Contagious Diseases Committee had any control over the veterinarians' charges.

It was stated that the Committee could make their own scale of charges, but had not done so, and the Committee had, pending the drawing up of a scale and regulations, provisionally adopted the scale of the National Association of Veterinary Surgeons.

Mr. Hawk asked what had been received in the matter of salvage in the cases of diseased animals, and it was stated that no figures could yet be given, because the amounts had not been received, except from one police district, where the sum was £10.

Mr. Hawk suggested that no provision had been made for salvage. When an animal was not seriously diseased it should be taken to a slaughterhouse. It might be that three-parts of the carcass was fit for human food. Instructions had not been given to take them to a slaughterhouse.

Mr. Liddell (assistant clerk) stated that instructions had been given when the forms were sent out a month or six weeks ago to the police and to every veterinary inspector in the county.

Mr. Boscawen said that in one or two cases the diseased carcasses had been sent to the knacker's yard, and the money was being collected.

The Chairman said it was extremely necessary the Committee should draw up their own scale of salaries. He noticed a charge of two guineas was made for applying the tuberculin test, which meant four visits, but he understood that any intelligent man could take the temperature of a cow and report to the veterinary, and this would save two visits. In all the cases four visits had been charged for at the rate of 10s. a visit. "That," he said, "is rather more than a doctor gets for attending me." (Laughter). They could not dispute the payment of compensation. In every case the animal had been properly valued, and the compensation had to be paid.

Mr. Bain said he believed some of the veterinarians' claims were not in accord with the Veterinary Association's scale, but below it.

The Chairman: The scale in my opinion is too high. Mr. Bain inquired the amount due for compensation, and the amount charged by the veterinary surgeons, and the Chairman replied that the figures were £108 10s. and £206 3s. 6d. respectively. The veterinary surgeons' bills were nearly twice the amount of the compensation.

Mr. Bain asked if one district was not enormously high.

The Chairman replied that it was the Camelford district, a part which one would have been inclined to believe was healthy. The veterinary inspector in that district had a bill for £88 5s.

Mr. Bain: Wasn't it found that a large proportion of the animals were not suffering from tuberculosis at all?

The reply by the Chairman and Mr. Liddell was that it was the other way about. Of a total of 27 in the Camelford district, four only were found not to be diseased. One other died before valuation could be made, and another was slaughtered by the owner before the veterinary surgeon could do anything to it.

Mr. Thomas suggested that, considering the amount the County Council were called upon to pay in the short time the Order had been in operation, it would be proper for the sub-committee to take into consideration the question of the appointment of a whole-time veterinary inspector for the county. (Mr. Boscawen: Hear, hear.)

The Chairman thought the sub-committee should bring up a full report on the whole subject, including the question of a reduced scale of charges on the employment of a whole-time inspector.

Mr. Boscawen said in the scheme he was going to lay before the sub-committee he had thought of having a veterinary inspector for the county, a whole-time officer, who should be under the medical officer of health and attached to the sanitary office, with which department he would be associated when the Milk Bill was passed.—*The Western Morning News*.

Tuberculosis Order, 1913.

PROSECUTION AT HEREFORD.

At the Hereford Police Court, on Thursday, 21st ult., before the Mayor (Mr. H. Walker), Alderman James Corner, Mr. F. H. Merrick, Mr. W. Ashburner, and Mr. C. Hatton, Arthur Allington, farmer, of Barr's Court, was summoned for not reporting two cases of tuberculosis in bovine animals and failing to disinfect his premises on July 25th.

Defendant pleaded ignorance.

Mr. E. A. Caple said the Order came into operation on May 1st, and that was the first prosecution of the kind in the county. The two cows were in a deplorable condition, one in particular, and the animals, on being slaughtered and a post-mortem examination being made, showed definite signs of tuberculosis. He hoped the Bench would inflict such a penalty which would serve as a warning to others.

Albert Coles, a clerk in the Town Clerk's office, produced a pamphlet which had been published and circulated, giving a full text of the Order. No notice was received from defendant of the cases of tuberculosis.

Defendant said he had never seen the pamphlet.

P.C. T. Edwards said he served a copy of the pamphlet at defendant's residence on April 21st, leaving it with Mrs. Allington.

Detective Ovens said that on the 24th ult., in company with Detective Hoskins, he was in the neighbourhood of defendant's farm, and saw a little red cow in the meadow, which was in a very poor condition. He noticed a brindle cow, a little red Hereford, and a Short-horn, which appeared very thin. It appeared to him to be tuberculosis. He reported the matter to the Chief Constable, and acting on his instructions called in Mr. Barling, veterinary surgeon, to examine the cattle. He accompanied Mr. Barling to the farm on July 25th, and in a stable adjoining the house he saw a cow in an ex-

remely poor condition. Mr. Allington was away, but he saw him the following day, and accompanied him to Mr. Barling's. Mr. Barling told defendant in his presence that two of the cows would have to be destroyed, as they were in an advanced stage of tuberculosis. No notice had been received of the disease.

Mr. James Barling, M.R.C.V.S., said he visited defendant's premises with the Chief Constable and Mr. Ovens. They found a red and white cow in a stable adjoining the house, and he did not think he ever saw an animal so poor and emaciated in his life. It was suffering from tuberculosis in an advanced stage, and must have been suffering for months.

Alderman Corner: Was the condition such that it must have attracted the attention of persons seeing the cow?

Witness: Undoubtedly. Continuing, witness said that they saw in a meadow 31 cows and a calf, and three of the cows were looking suspicious, and he had to report them under the Tuberculosis Order; a brindle cow in particular, with calf.

Defendant: I am not summoned for that.

Witness: No, but I am bound to refer to them in my report. Witness said they then found in another building a red cow with a white face in a semi-conscious state, and undoubtedly suffering from tuberculosis. He saw defendant on the 26th (the day following) and told him the cows would have to be destroyed. They agreed as to the price to be paid under the Order. If a cow was tuberculous, 30s. was paid, less expenses.

Alderman Corner: The net result is that the owner of the cattle gets practically nothing.

Defendant: Not a penny-piece.

Mr. Sidney Protheroe, sanitary inspector, said he had received no intimation from the defendant of the disease.

Alderman Corner (to Mr. Barling): What is the effect upon the other cattle where tuberculous cattle are allowed to move amongst them?

Mr. Barling: It is undoubtedly contagious, not only to the other cattle, but to children. It is absolutely dangerous.

Defendant, on oath, said one of the cows had had a calf, and he thought its condition was attributable to that fact. He added; "I certainly don't say they were all right, because I don't think they were, but I did not think they were tuberculous. It is a very deceptive disease."

Alderman Corner: But they actually attracted the attention of the police officer.

The summons for failing to disinfect was then proceeded with.

Defendant said he did what was required. He had not seen the Order.

Detective Ovens said that disinfection had not been carried out four days after the notice to do so had been served upon defendant. The cleansing was not carried out until ten days had elapsed.

Mr. Barling said the condition of the buildings was very bad.

Mr. Protheroe, recalled, said he had not visited the premises since defendant gave up providing milk, some two years ago. He devoted his attention mainly to dairy farms, and this was a stock farm.

The Bench retired, and after a lengthy consultation, the Mayor announced that they found the cases proved. As this was the first prosecution of the kind they had decided not to take such a serious view of the matter as they otherwise would have done. In the first case, defendant would pay £5 in respect of each cow, and £2 4s. 6d. costs, and in the second case he would be fined £1 and £1 0s. 6d. costs, a total of £14 5s.—*The Hereford Journal*.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders † (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Out-breaks.	Slaugh-tered.*
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
Gr. BRITAIN.													
Week ended Aug. 23	6		8				4	4	14	28	2	38	704
Corresponding week in	1912	4		4	3	7	2	2	19	24		34	421
	1911	14		22	1	5	3	3				41	320
	1910		29	34			11	17			3	18	156
Total for 34 weeks, 1913	373		410				113	294	1896	3828	129	1672	22607
Corresponding period in	1912	554		630	70	442	120	228	2336	5074	170	2188	28379
	1911	562		707	8	425	127	305			306	1737	20257
	1910		980	1186	2	15	248	762			335	971	8712

† Counties affected, animals attacked: London 1, Middlesex 2, Worcester 1.
Board of Agriculture and Fisheries, Aug. 26, 1913.

IRELAND. Week ended Aug. 23	...	...	...	...	...	...	...	...	Outbreaks	8	4	47
Corresponding Week in	1912	...	...	...	3	...	...	...	1	...	2	13
	1911	...	...	...	...	...	...	...	...	3	2	68
	1910	...	...	...	...	...	...	...	4	2	...	20
Total for 34 weeks, 1913	...	...	...	...	...	...	...	...	96	366	110	652
Corresponding period in	1912	...	3	3	21	216	...	...	52	261	172	1454
	1911	...	7	12	...	...	2	3	49	253	91	1575
	1910	...	5	8	...	...	1	2	52	348	71	1693

† These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Aug. 25, 1913

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Electrical Sterilisation of Milk.

At the English-speaking Conference on Infant Mortality, held at Westminster, Dr. E. W. Hope, medical officer of health for Liverpool, mentioned that a large number of careful experiments had been made during the last two years with the view, if possible, of lessening the cost of sterilisation, and careful researches had been carried out at the University of Liverpool by Professor Beattie and others in regard to the electrical sterilisation of milk in flow. The upshot of these investigations showed that by electrical methods, milk could be effectually sterilised, all extraneous organisms being destroyed. No change whatever took place in the milk; the flavour, taste, chemical composition, and so forth being absolutely the same as in pure, fresh milk. The process was very much cheaper than the ordinary Pasteurisation by heat. Various pathogenic organisms had been experimented upon, with perfectly satisfactory results. The Corporation had authorised the installation of a plant at one of their depots for this process, which had now quite passed any experimental stage, and which had, he believed, a very valuable future before it.—*Farm and Home.*

The New Forest Ponies.

Two years ago the Burley Association of owners and breeders of New Forest ponies decided to try the experiment of offering a limited number of premiums for mares and fillies turned out in the forest which had never been hand fed. These ponies are practically wild, gaining their own living in the forest. In secluded

haunts the foals are born and remain with their dams, dependent on them for their food. Of these foals a certain number are taken up and sold as suckers every year, but others are never handled at all, and are left out till they in their turn develop into brood mares and stallions. For two years past the Burley Association has directed its attention to these forest-haunting mares, distributing premiums in such a way as to encourage the owners, many of whom are small holders and working men, to retain the most likely mares for purposes of breeding. It is these non-hand-fed ponies which are the backbone, both physically and commercially, of the forest breeds of ponies. For, as one of the most experienced of forest pony men, Mr. Charles Evemy, now the senior agister, remarked to me, "As soon as you begin to feed your ponies the profit vanishes."

But this is not the only reason for encouraging these wild creatures, for after a week spent in most careful examination in all parts of the forest, the judges found that the ponies which were the best shaped, the finest movers, and by far the best in condition, were those which gained their own living on the forest without assistance. One of the oldest owners explained the reason of this. The most valuable quality of a forest mare is self-reliance and resourcefulness, and this, it appears, is easily lost if an owner, thinking to improve their condition, once begins to feed them, for the animals soon lose their will and desire to shift for themselves. They go back, it is true, into the forest when their ration is consumed, but cease to range widely and search closely for the varieties of food which the forest affords to their wilder sisters. They crop listlessly here and there, never wandering far from the homesteads, and they spend much of their time crouching in the

shelter of bushes. They lose condition, and can be easily distinguished from the true wild ponies by their poverty of appearance, their unthrifty coats, and their too often misshapen forms.

The wild pony ranging over many miles in search of food exercises herself and her foal, hardens the bone, develops muscle, and actually puts on flesh. It is in these bolder spirits that one sees the remarkable action characteristic of the true forester. The best have a free, level action, use their shoulders, flex the hocks in a delightful manner, and trot or gallop smoothly over the roughest ground without a false step or a mistake. Nothing stops these ponies, and I saw four in succession which were being gently moved for my inspection trot quietly up to a stream with a bad take off and a boggy landing, and each in turn cleared some 6ft. without hesitation and perfect ease.—*Field*.

The Traffic in Old Horses.

The Board of Agriculture issued on Monday, Aug. 25, the annual report for 1912, of proceedings under the Diseases of Animals Acts and the Markets and Fairs (Weighing of Cattle) Acts [Cd. 6737].

The Assistant Secretary, Animals Division, Mr. A. W. Anstruther, states that the shipment of old horses to the Continent is now carried on under greatly improved conditions, and that in view of the exceptionally heavy storms in the last quarter of the year, the percentage of losses must be regarded as very small. From Jan. 1 to December 22, 15,734 horses and one donkey were shipped from English ports to Rotterdam; no complaint was received from the Dutch authorities as to their condition. The total number of horses shipped to Antwerp during the year was 17027 and 16,988 arrived without injury. The others died on the voyage. The number exported to Ghent from Great Britain and Ireland was 8,265, viz., from London 5,399 horses, two mules, and four donkeys; from Hull 1,788 horses; and from Goole 1,078 horses. Of these 1961 were working horses and described as carriage horses, hacks, hunters, and troop-horses, 1725 were five years of age and under, 236 horses over six years of age were tested with mallein, and 5304 were slaughtered for food, principally for sausages. The casualty returns were under one per cent.: 5,891 horses were exported to Amsterdam and, notwithstanding the exceptionally heavy storms during October, November, and December, the animals arrived in good condition and the injuries reported were only 31 for the year. The deaths numbered 84.

The veterinary inspector who in the course of his duties visits railway stations in connection with the conveyance, watering, and feeding of horses in transit reports that, in consequence mainly of the action of the inspectors of the Society for the prevention of Cruelty to Animals, the various railway companies concerned have now decided to take concerted action in this matter. Arrangements have been made by which all live stock will be fed and watered, and special labels will be attached by the railway officials to each truck, showing when and where the animals were last fed and watered, and the officials at all stations have instructions to examine trucks containing live stock on arrival. He reports also a great improvement in the condition of the trucks used for the conveyance of animals, owing to the supervision exercised by the officers of the local authorities.

The report also gives a detailed history of the outbreaks of foot-and-mouth disease in Great Britain in 1912. The disease was detected in 16 counties—15 in England and one in Wales. The animals attacked were 512 cattle, 40 sheep, and 93 swine; and the animals slaughtered as diseased or as having been exposed to

infection were 3,084 cattle, 6,410 sheep, 890 swine, and five goats.

In 1912 1,756,277 dog licences and licences for hounds were issued in England and Wales, and 126,728 in Scotland. These figures show an increase of 50,394 in England and Wales, and 5,770 in Scotland as compared with 1911.

Hydroquinine Hydrochloride.*

A quinine substitute of synthetic preparation has been placed on the market. It differs from quinine by the addition of two more atoms of hydrogen per molecule, and is in the form of white crystals of very bitter taste, very easily soluble in water and also in alcohol, but insoluble in ether. The toxicity of this alkaloid is about the same as that of quinine, if anything slightly less. As an antimalarial specific it is said to be superior to quinine hydrochloride, and possess as well the great advantage of much higher solubility. A future is also anticipated for hydroquinine as a trypanocidal drug, both in animals and in mankind. Intravenous and intramuscular administration is much more conveniently carried out than with quinine salts, owing to the solubility and consequent small bulk of a given dose. Lenzmann has, it appears, been treating whooping-cough with this new drug, injected intramuscularly, with excellent results.

(Vereinigte Chininfabriken Zimmer und Co., Frankfurt. London Agents: Widenmann, Brocher and Co., 1 Fenchurch Avenue, E.C.)

Tuberculous Poultry.

Relative to the inspection of the food supplies at Smithfield, the last report of Dr. W. Collingridge, issued in his capacity as Medical Officer of Health, contains the following statement:—

"Attention is being directed to the prevalence of the disease in poultry by making a post-mortem examination of emaciated fowls, condemned as unfit for food, in the City Markets. Those examinations are proceeding, and at present it is sufficient to state that 50 per cent. of poor quality fowls are affected with tuberculosis, and in a degree which requires to be seen in order to realise its importance."

Swine Fever Serum.—It is estimated that 6,000,000 pigs were lost through swine fever in the United States last year, and a considerable proportion of that loss, the Department of Agriculture declares, is due to the supply of bad serum for the inoculation of the animals, by private firms whose concoctions are not tested. To prevent this abuse the Department has issued an order placing all makers of swine fever serum under the supervision of the Bureau of Animal Industry. They will have to register under the Bureau, to label their products, and to conform to certain sanitary requirements.

Boy Shot by "Humane Killer."

The accident occurred at Comeragh Mews, West Kensington. A horse which had become unfit for use was despatched in the yard belonging to the Mews, and the bullet passed through the fore portion of the animal's neck and entered the head of a nine-year-old lad who was standing in the road beyond. The boy was taken to the West London Hospital, where a bullet was found in his head, having entered near the right eye. It is feared that he will lose the sight of the eye.

The Handling of Wool.

At the annual meeting of the Royal Agricultural Society at Bristol, Mr. J. W. Elwes suggested that that Society should appoint an expert to advise growers in the handling and disposal of wool. The members of the British Wool Buyers' Association complain, and complain with cause, that many farmers are not so careful in the grading and get up of their wool as they might be. In many cases no attempt is made to classify and render uniform the different classes of clips. In others, brock, clods, vegetable matter, and all kinds of broken and detached portions, which ought to be set aside from the first, are freely rolled up with and included in the major bales without any intimation of the fact being made to the broker. The result is that when the wool reaches the manufacturer it is either in large measure rejected altogether or the broker has to stand in and accept a reduction in price. It is not to be expected that the purchaser will accept a situation of that sort without protest. He simply protects himself the following year, and either refuses to deal with the particular grower altogether, or offers such a reduced price as he fancies will leave ample margin of cover. The Colonial, in this matter, has long since learned his lesson as the result of bitter experience. No small part of the high reputation which colonial and other wools now enjoy on the London and other British markets is due to the fact that it is carefully classed and graded before being baled. The value of British wool is not the insignificant item that is sometimes supposed. At present it is worth about $2\frac{1}{2}$ million pounds per annum, and it is confidently expected that it may become of even greater value in the near future.—*N.B.A.*

Spring in Australia.

August finds the brief, mild Australian winter already breaking, and the countryside alive with the first signs of spring. The natural grasses are moving and making good feed for live stock, although as yet they are far from their best. The farmers of the Commonwealth are welcoming the summer, while they in Britain are making preparations for the long months of winter. The passing from winter to summer in Australia is not as it is here in the north. The native evergreen vegetation prevents those sharp divisions of the seasons familiar to Europe, but still the changes are clearly marked, the leaves do not fall, they take on a livelier green as summer approaches, and shrubs are beautiful and fragrant, with a wealth of blossom. The land, too, becomes a wide garden of wonderful wild flowers. The Australian wild flowers are sometimes charged with being scentless and this is true of some of the most beautiful blooms. But there is compensation in the delightful perfume of the blossom of the wattle and the gum. The gum (eucalyptus) blossom varies in colour according to the species and location; sometimes it is a gorgeous red, sometimes pink or yellow. The Scotsmen and Englishmen in many parts of Australia find the spring almost as pronounced and as stimulating as they do in their native land in the north.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, Aug. 26.

REGULAR FORCES. ARMY VETERINARY CORPS.

The following Captains to be Majors, under the provisions of Article 341, Royal Warrant for Pay and Promotion, 1909:—

E. B. Bartlett. Dated May 19.

G. Conder. Dated July 6.

A. J. Williams, F.R.C.V.S. Dated July 6.

J. J. Griffith, F.R.C.V.S. Dated August 24.

The Price of Army Horses.

The Argentine Rural Society have just published some very interesting figures with reference to horses for the Army. In April last a show of Army remounts was held, at which 577 horses were entered. Of this number 432 were bought for the Army at prices ranging from £26 4s. to £52 8s., and an average from £37 11s. 8d., and practically all the rejected horses were bought by the local municipality. If this can be done in a country where horses are notoriously cheap and cost very little to rear, how is it that in England the War Office cannot give a *paying* price to breeders of this class of horse? W. T. HALL, in *The Live Stock Journal*.

Personal.

Mr. W. F. HOUSTON, M.R.C.V.S., Paisley, acted as judge in the light horse class at the annual show of the Islay, Jura, and Colonsay Agricultural Association at Bridgend, Islay, on Thursday, 14th inst.

Mr. G. PARKER SHORT, M.R.C.V.S., Torquay, has been appointed Honorary Veterinary Surgeon to the Torquay and Devon Canine Association.

OBITUARY

Mr. CHARLES SUTTON, a Peterborough veterinary surgeon, took hydrochloric acid in mistake for spirits of camphor, and died shortly afterwards.

[We do not find this name in recent editions of the Register. It appears that Charles Sutton, M.R.C.V.S., who graduated in 1869, was taken off the Register as deceased in 1909.]

NISBET.—At Boundary House, Fence Houses, on the 26th inst., Ann, wife of J. Brodie Nisbet, F.R.C.V.S.

The death is announced last week of Mr. David Young, the able and widely-known editor of *The North British Agriculturist*, from 1887 to 1911.

"Mr. Young was the son of a farmer, born at his father's farm at Smediton, near Carmyllie, Forfarshire, in 1852. He followed the plough in his early days, and on the death of his father, took over the farm, and, for five years carried it on, completing the then-current lease.

As a journalist, Mr. Young had a retentive memory and a quick, well-informed mind for dealing with facts, and this found expression in a style which was at once outspoken, trenchant, and telling. He dearly loved a controversy, and was in his element when breaking a lance with either friend or foe. Of him it may justly be said, in the poet's words—

"He can distinguish and divide
A hair 'twixt south and south-west side;
On either side he can refute,
Confute, change hands, and still dispute."

He was nevertheless a man with high ideals of truth and justice, and many found in him a warm-hearted and steadfast friend, as well as a pleasant and genial companion."—*N. B. A.*

GOVERNMENT PUBLICATIONS.—Messrs. Wyman and Sons (Ltd.), have published the following, the prices including postage:—Annual Report of Board of Agriculture *re* Diseases of Animals Acts, etc., 1s. 2d.; Return *re* Experiments on Living Animals during 1912, 9d.; Dogs Protection Bill: Report, 2½d.

CORRESPONDENCE.

UNSUSPECTED TUBERCULOSIS.

Sir,

I have read with much interest the note under the above heading which appeared over the name of W. Brown, Workop, in your issue of the 10th inst.

In my limited experience I have also noticed similar phenomena at times; that is to say, that an animal shortly after parturition developed acute tuberculosis; and it is an aspect of the disease that has attracted my attention to a great extent. I would like therefore to ask Mr. Brown if these animals showed any symptoms of tubercular disease before pregnancy?

In his note it is stated that the act of parturition acted as an exciting cause. If I may be allowed to say so, I am rather of opinion that the fact of pregnancy acted as a deterrent to the development of the disease, and that it was the cessation of the pregnant condition which permitted of its growth. This may appear to be a quibble, but in some cases it may be an important quibble, as it undoubtedly is in human medicine.

During a chat with some medico friends I happened to remark that tuberculous people were apparently as fertile as the daughter of Latona, when one man who had a large practice in an industrial district replied, "Yes, and that is not the worst aspect of the case, and tuberculous women realise that pregnancy deters the ravages of disease and therefore strive all they know to get into 'an interesting condition.'" He informed us that in his district he knew at least two cases where women were keeping themselves alive by such means.

Osler says "pregnancy may hold the progress of the disease in abeyance," but asserts that there may be truth in the axiom of Dubois, "If a woman threatened with phtisis marries she may bear the first accouchement well, a second with difficulty, and a third never."

I put forward these few remarks with diffidence in the hope that some of our experienced practitioners may be tempted to write on the matter from their standpoint, and thus raise a point which is not without interest to our stock-breeders.—Yours faithfully,

MOMPARA.

August 27.

MILK FEVER,

Dear Sir,

In your issue for July 19th, 1913, I note "Milk Fever: Suggestions for Prevention," the author, Mr. W. E. Blackwell, M.R.C.V.S., calls attention to the value of leaving a good supply of milk in the udder as a pressure agent. In discussing the probability of the condition being a toxemia, he assumes the possibility of the pressure stopping the entrance of the supposititious toxin into the circulation. Now, assuming the presence of toxins in the blood as the cause of the very grave symptoms exhibited in "milk fever," how can ballooning the udder with air or oxygen, or dilating it with solution of KI, normal saline solution, or even water, exercise any beneficial influence on the condition of the patient? It is not the toxin in the udder, but the toxin that has got out of the udder that kicks up the trouble—if a toxin is the cause of the condition. And to admit that air, oxygen, or medical solutions gain access to the circulation—at least in case of the air or oxygen—is absurd. Furthermore, to believe that blowing up the udder by means of a bicycle pump (a common emergency method in my country) would neutralise a toxin and stop its formation in a comparatively few minutes, leaving the patient not recovering, but to all intents and purposes well, implies credulity. Is it not well to rest on the fact that ballooning the udder is almost a specific treatment, and say that we don't know the cause! Like Mr. Blackwell, I am agnostic in the matter.—Yours truly,

THOMAS B. ROGERS.

Woodbury, New Jersey, U.S.A.

August 14.

Sir,

Regarding Mr. Blackwell's suggestion appearing in the issue of the 19th ult., I have always noted that in districts in Ireland where it was the rule to leave the calf "on the cow" for 24 hours, cases of milk fever were practically unknown; whereas in other localities, where the custom was to remove the offspring at once and feed it from the pail, milk fever was general.

Just now, I have in my mind a practice in Scotland, where latter arrangement was by dairymen strictly adhered to, and the cows never saw their calves; there milk fever cases were of daily occurrence.—Yours, etc.,

L. J. KELLY.

Calcutta.

Sir,

Milk fever syringes are not yet used by all owners, and cases are still remunerative, if properly conducted—not with a bicycle pump and without medicine—to say nothing of the credit one gets from the anxious client. With the kindly help of veterinary correspondents to agricultural papers, preventive veterinary medicine may be carried too far—from the practitioner's point of view; the palmy days promised in the future by "those who know" notwithstanding.—Yours faithfully,

G. F. B.

Veterinary Societies—Addresses.

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 Friday alternately in Feb., May, Aug. and Nov.

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 122 St. George's Avenue, Tufnell Park, N.
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THE VETERINARY RECORD

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VOL. XXVI.

THE QUESTION OF PRIVATE SLAUGHTER-HOUSES.

This week we print an abstract of a paper and our report of the discussion upon this subject, which formed part of the proceedings of the Veterinary Section at the recent Sanitary Congress at Exeter. The paper was a good summary of the objections to private slaughter-houses and the desirability of public abattoirs; and its main conclusions were unanimously endorsed by the audience—as might have been expected. Everyone conversant with the subject recognises the superiority of public abattoirs to private slaughter-houses for purposes of inspection. But there are very serious obstacles in the way of a general adoption of the abattoir system in England; and, though these were recognised at the Exeter meeting, the discussion revealed no means of surmounting them.

Despite those obstacles, the public abattoir has made such headway of late years in our large cities that its adoption by smaller towns seems only a question of time. We think, too, that wherever a public abattoir is established it will tend to supersede the private slaughter-houses gradually, though not perhaps very rapidly. Though legislation may succeed in abolishing private slaughter-houses in urban districts, it is quite likely that they would disappear in time without it. But the essential difficulties lie in the country—in those “immense rural areas containing numerous slaughter-houses, in which unsound meat is rarely or never found or reported.” The theoretically ideal way of dealing with these, of course, would be to establish a little abattoir in every village which now supports a butcher; but the present generation will hardly see that ideal realised. It should, however, be possible to have all rural slaughter-houses registered and inspected, and to do so, not by local regulations, but by Act of Parliament, embracing the whole country.

At present, in most rural districts in England, there is practically or absolutely no meat inspection at all. Legislation to establish it as a national system appears to be the first step necessary.

Such legislation will not be easy. Some opposition may be expected; and, further, there will be a difficulty in drafting regulations which, in the rural districts, will be at once effective and workable. In this connection possibly such bodies as the new Veterinary Inspectors Association might note some hints which fell from Prof. Penberthy, the Chairman at the Exeter meeting. A conference which could advance “suggestions which would render an Act of Parliament practicable,” especially with regard to the country districts, might do incalculable good: for at present the general desire for legislation on the question is accompanied by much dubiety as to the possible form.

THE PREVENTION OF MILK FEVER.

I have been deeply interested in the discussion on this subject initiated by Mr. Blackwell, and contributed to by other practitioners, and it is owing to your request for notes on clinical experience and the hope expressed by these gentlemen that the matter might be further discussed, that I am encouraged to send you the following rough notes on the subject.

During over thirty years experience in provincial practice I have seen my share of milk fever, although, I must confess, I am not like your correspondent, Mr. Kelly, I have never known it of daily occurrence.

It is not within my province to discuss the disease or its treatment, but to adhere strictly to the text. Of course I have seen cases of milk fever at all times of the year, but during the hot dry summer of 1893 I only saw three cases during June, July, and August, and two of these were in pampered Channel Island cows. During the same period the year following, when the weather was wet and the supply of grass plentiful, I saw eighteen cases in the same district. These facts impressed me considerably.

My experience teaches me that neither the removal of the calf from the cow as soon as it is born, nor the leaving it with the cow, either causes or prevents the disease. Neither does refraining from milking the cow immediately after calving have that effect.

I have found that if the following rules be strictly carried out the cow will not go down with milk fever.

I advise that a suspicious cow (every practitioner will know what I mean) be taken up and stabled a fortnight before she is due to calve. She should be sparingly fed and regularly exercised for an hour daily.

A week before her time is up, she should be given a mild aperient drench. At the time of calving, her stomach should be fairly empty.

After calving she should have another aperient drench and be allowed some gruel and treacle to drink. Enough milk may be at once taken to supply the calf, but the udder *must not be stripped* until after the third or fourth day. She may then be gradually brought to full rations and properly milked out.

It is only in very rare cases where the udder is abnormally distended that I advise any milk being taken before calving.

I am aware that no positive proof of the prevention of the disease is possible, but when one has

seen heavy fleshed, deep milking cows, which have been down with the third calf, calve safely through with the fourth and fifth, one is inclined to the conclusion that there is *something in it*. Some of these ideas may appear old-fashioned, but perhaps, for once, they are none the worse.

The drawbacks to this treatment are:—Firstly, the difficulty in getting your instructions carried out. Secondly, the fact that the cow *does not fully come to her milk for a few days after calving*.

Has the latter anything to do with her not going down?

JAMES SMITH, M.R.C.V.S.,

Wetherby, Yorks.

PHYLACOGENS AND STRANGLES.

In June of this year I had an outbreak of strangles, one horse after another going down at intervals until the middle of July, and having lost two horses—one from purpura and the other from the bursting of a post-pharyngeal abscess into the trachea—I thought we were clear.

However, on August the 2nd another horse was affected with submaxillary and post-pharyngeal abscesses; the former of which I lanced, and the latter I burst by pressure, and on going through the stud (30 shires) with the thermometer I found four more with temperatures ranging up to 104 F.

As harvest was imminent this was a serious matter for my client. I advised injecting with phylacogens (P. D. & Co.), and my advice was acted upon, viz., to inject all the horses as well as the symptomatic ones.

On August 6th I injected the whole of the horses on the farm, and in addition six four-year-olds up from grass, these latter before coming in contact with the others.

As a *curative* I gave the five affected horses 30cc. subcutaneously in the neck, and as a *preventive* 15 cc. to the in-contacts and the six horses up from grass.

The result was highly satisfactory. The horse (aged) with the abscesses commenced feeding the next day, and made an uninterrupted recovery. Convalescence was very rapid, and he was at work in ten days.

The horses with the temperatures, dropped to normal, and were at work in three days, and of the rest, I have had no more cases, and they have just gone through a most strenuous harvest.

I am using phylacogens on a case of poll-evil. It is doing remarkably well, but will give the result later on.

“M.”

L'Echo de Paris publishes the following telegram from Brest:—“The Germans are making a veritable clean sweep of Breton horses. They attend all the big sales. It is known this year that they have purchased or caused to be purchased about 180,000.

ABSTRACTS FROM FOREIGN JOURNALS.

THE PATHOGENESIS OF FOOT-AND-MOUTH DISEASE.

Joseph Böhm, of Nürnberg, an official veterinary surgeon, publishes (*Deutsche Tier. Woch.*) an article upon this subject. He calls attention to the pathogenic importance of the young layers of horn lying above those tissues of the foot which are primarily affected with lesions of foot-and-mouth disease. These young layers imbibe infective matter from the primary lesions; and, when they afterwards become exposed to the air in consequence of wear or separation of the horn, they may lead to fresh infections.

Zschokke examined the claws of cattle which had undergone foot-and-mouth disease some time previously. Within the ball of the foot and the horn of the hoof he found cleft-like spaces, which he regarded as residues of a previous accumulation of exudate in the cutis. By means of small portions of the horn of animals which had been affected with foot-and-mouth disease ever eight months before, he succeeded in infecting other cattle with typical foot-and-mouth disease after five days.

The chemical composition of the horn-tissue together with the natural heat of the body, forms especially favourable conditions for the maintenance of the virus. Recognition of this explains the frequent appearance of new outbreaks of infection.

Careful attention to the claws is therefore of the utmost importance. At shows and markets, only animals the condition of whose claws is unexceptionable should be admitted. Similarly, regard should be paid to the possibilities of infection from the claws of slaughtered animals.—*Münchener Tier. Woch.*

TUBERCULOUS GROWTHS UPON THE SEMILUNAR VALVES OF THE PULMONARY ARTERY IN A COW.

Giovanelli reports (*Schweizer Archiv.*) the case of a heifer eighteen months old with the following history. Her mother was killed after being successfully fattened for the butcher, but was found post-mortem to be severely affected with tuberculosis. The calf thrived well up to the age of eight months, when, without any apparent cause, she developed a dry laborious cough. This disappeared in time and the heifer's general condition became perfect. She was fat when taken from the pasture and housed; but, two months later, she began to go wrong. The appetite became capricious, and the animal grew thin, while the owner noticed the appearance of a slight dyspnoea whenever she walked.

Giovanelli then examined her, and found her thin when compared with her neighbours. Her eyes were bright. She ate hay given to her slowly, but continuously. Her general health did not appear to be altered. Giovanelli then had her walked rather quickly upon the road; during which she suddenly stopped, and could only be got back to the byre with difficulty. The respirations were now accelerated, and were abdominal in type.

Auscultation of the lungs revealed nothing abnormal. The whole of the cardiac region was sensitive to pressure. The sounds of the heart were obscured by abdominal borborygmi, and were therefore difficult to perceive.

These alarming symptoms disappeared very quickly, and the heifer again began to feed. Giovaneli, however, seeing that she was the produce of a tuberculous mother, regarded her also as tuberculous, and advised slaughter. About three weeks later she was sent to the abattoir, about a quarter-of-an-hour's journey from the byre. On the way she fell down upon the road, and died suddenly.

Post-mortem, the abdominal organs were found to be healthy. Upon opening the thorax, the pulmonary artery was seen to be voluminous externally. Internally, it was found to be lined with irregular fibrinous deposits. The edges of the valves bore yellowish-grey proliferations with irregular surfaces, and of the size of a pea or of a lentil. Their sectioned surface showed an elastic consistence, and at some points they appeared horny. Upon their surfaces, dirty-white deposits of fibrin were seen, while the face of the valves which responded to the heart was smooth and shining.

Some subcutaneous lymphatic glands were hypertrophied, and contained a yellow mass, caseous, and partially calcified, in which tubercle bacilli were found.—(*Annales de Méd. Vét.*)

RUPTURE OF A THORACIC ŒSOPHAGEAL DIVERTICULUM IN THE HORSE.

F. Volkmann, of Munich, records the following case of an eight-year-old Belgian gelding. The day before the illness the animal had been in harness, had come into the stable again fresh and healthy, and had completely cleared up his evening ration. In the morning he refused all food, taking only a little water. From the stupid appearance of the animal, the owner suspected an affection of the brain.

Volkmann examined him the same day, and found that his general appearance already showed all the symptoms of a very severe illness. He stood in the stall with sunken head and half-closed eyes, and when forced to move, did so sluggishly and with difficulty. The rectal temperature was 103.5 F. The pulse was from 84 to 88 per minute, uniform and regular, and not particularly strong. The respirations were from 36 to 38 per minute, were of the costo-abdominal type, and were not markedly laboured. The visible mucous membranes showed a reddish-yellow colouring. Some slimy discharge was flowing from the right nostril, but the expired air showed no abnormal smell. Auscultation yielded friction sounds on both sides of the chest over the whole auscultatory surface. Volkmann diagnosed the case as bilateral pleurisy.

The next day the general condition of the horse was worse. When forced to move his gait was staggering, especially in the hindquarters. The temperature had risen to 105 F. The pulse rate was 108 per minute, the pulse itself was small and

irregular, and the action of the heart was tumultuous. The respirations were 50 per minute, had increased in violence, and were accompanied by great heaving of the flanks. Auscultation yielded no respiratory sounds in the lower third of the chest on either side. Elsewhere friction sounds, with sharpened vesicular breathing, were audible. A slimy nasal discharge flowed from both nostrils, and the expired air had a faint sweetish odour. The nasal and oral mucous membranes showed a reddish-blue colour, and the conjunctiva a dirty reddish-yellow. Another new symptom on this second day was increased defecation, the faeces being thin and fluid. Volkmann now extended his diagnosis to bilateral pleurisy and septicæmia.

About six hours after this second examination, and about thirty-one hours after the first symptoms of illness had been seen, the horse died of cardiac failure.

The post-mortem examination, carried out next day, resulted as follows: When the thorax was opened, about six litres (roughly 10½ pints) of dirty yellow fluid mixed with alimentary matter escaped from it. The internal walls of the thorax on both sides showed a diffuse dusky reddening, and were completely covered with small green particles of food. The visceral pleura were grey, as if coated with hoar-frost. The right lung showed obstruction—œdema, but the left lung was without alteration.

The passage of the œsophagus through the diaphragm was surrounded by a cicatrous ring. In front of this the thoracic portion of the œsophagus showed a spindle-shaped expansion for about a foot of its length. Its walls were dilated, and their muscular tissue was markedly lighter in colour than was normal, and showed a slight degree of hypertrophy. The mucous membrane of this dilated portion of the œsophagus was rough and thickened.

This œsophageal diverticulum was burst along the whole of its length. The fluid part of the contents of the stomach had then been able to gradually flow out into the thorax, and thus the severe illness had been caused.

Volkmann suggests that the rupture of the diverticulum may probably have been caused by an attack of coughing when it was distended with food.—(*Münchener Tier. Woch.*)

URETHRAL CALCULI IN A MARE.

Eggink records (*Tydschr. v. Veeartsenijkunde*) the case of an eight-year-old mare, which was under his treatment for incontinence of urine. The year before she had given birth to a hydrocephalic foal, the extraction of which had necessitated an ovariectomy. The mare had recovered rapidly from this, but at the end of a certain time she had commenced to urinate frequently, and finally developed incontinence.

When Eggink examined the mare he found that whenever she moved, a certain quantity of turbid urine flowed from the inferior commissure of the vulva. The skin beneath was considerably irritated, and the hairs had fallen from it. The mare had

become rather thin, and the appetite had diminished; on the other hand, thirst was greatly increased. The case had been abandoned as incurable by another veterinary surgeon, who had diagnosed a paralysis of the bladder.

Upon vaginal exploration Eggink found a hard tumefaction, the size of a goose's egg, upon the floor of the vagina. Introducing his finger into the bladder, he recognised the presence of a firm mass composed of numerous fragments corresponding perfectly with one another, and occupying the whole of the visical cavity. By means of his right index finger (the left hand meanwhile manipulating the bladder externally) Eggink withdrew a series of calculous fragments ranging from the size of a nut to that of a large walnut. The various fragments bore facets articulating perfectly with adjacent fragments. The bladder also contained a certain quantity of fine gravel.

The bladder, the walls of which were considerably hypertrophied, was irrigated with a tepid solution of boric acid till all the gravel was expelled. The mare was also given ten grammes (equal 5iiss.) of salicylic acid twice daily. Every three days the bladder was irrigated with weak antiseptics, especially a one-half per cent. solution of nitrate of silver. Later, a one-half per cent. solution of sulphate of zinc was used, and then permanganate of potash at the same strength. Later still, the mare was given ten grammes of salol twice daily.

The animal's condition rapidly improved. The appetite returned, and the urine, which was still turbid at first, soon became clear. After six weeks the mare was cured.

Eggink thinks it probable that the embryotomy practised the year before had produced a traumatic vaginitis, from which an infection of the bladder had taken place. Vesical catarrh, and the formation of calculi, had been the consequences of this infection.—*Annales de Méd. Vét.*

W. R. C.

HUMAN TUBERCLE BACILLI IN THE MILK OF A VACCINATED COW.

The persistence with which human tubercle bacilli had inhabited the milk of a cow, raised a strong presumption that the milk of others would have contained living tubercle bacilli, and showed the importance of testing the milk of all cows which had been vaccinated as calves.

The opportunity of testing the milk of two such heifers occurred, and in the milk of one, human tubercle bacilli was demonstrated.

The heifer was vaccinated when she was four days old, presumably with a minimal dose, intravenously. She calved when she was two years and four months old, and some of the first milk from each of the four quarters was obtained for examination. From guinea-pigs inoculated with it which became tuberculous, a culture of human type was isolated. Forty days later a similar result was obtained, the animal was then destroyed.

Post-mortem nothing of a tuberculous nature was found in the udder or supramammary glands, the

mucous membrane of the milk sinuses and ducts was normal, as was also the milk in them to all appearance.

The heifer had reacted to the tuberculin test on three occasions, namely, 7, 12, and 28 months after the protective inoculation.—*The Journal of Pathology and Bacteriology.*

FIBRINÆMIA.

When thrombin or thrombokinase is injected intravenously into rabbits, separation of fibrin takes place in the circulating blood.

The immediate cause of the separation of fibrin is in all cases the action of thrombin.

According to the rapidity with which thrombin is formed:

(a) Clotting occurs in the heart and great blood-vessels, especially on the right side of the heart, following the course of the fluid injected: or (b) masses of fibrin appear in the smaller bloodvessels and capillaries. The former accompanied by the latter, takes place if separation of fibrin is very rapid; the latter alone if separation of fibrin occurs relatively slowly.

The symptoms produced are in part, if not wholly due to mechanical interference with the circulation.

No evidence is forthcoming of an additional toxic effect produced by the fluid injected.—*The Journal of Pathology and Bacteriology.*

[The above appears to the transcriber to have a material bearing on the lesions and symptoms of the class of diseases in the horse which simulate beri-beri, and those in which the scleratomata appear to take a part].

F. E. P.

ROYAL SANITARY INSTITUTE CONGRESS. CONFERENCE OF VETERINARY INSPECTORS.

TRANSMISSION OF DISEASES BY ANIMALS TO MAN.
By A. H. ARCHER, M.R.C.V.S. (Member)

INTRODUCTION.

Although it is now fairly generally recognised, by both the human and veterinary branches of the medical profession, that many diseases are transmitted by and from animals to human beings, this fact neither receives the practical consideration it deserves, nor is it impressed on the lay community in such a way that its members appreciate the full significance of its teaching, with the consequence that frequently persons are exposed to grave risks and influences, through ignorance or carelessness, of a more or less serious character, which have not infrequently a fatal termination.

In the case of domestic pets, dogs, cats, monkeys, birds, etc., wilful disregard of consequences, and gross indifference to the effects produced on their fellow creatures, must, I fear, be added to the causes operating in the conveyance of diseases from animals to man, or from one human being to another, through the medium of an animal.

In my printed paper it will be found that I have mentioned three ways in which disease is known to be conveyed or transmitted by or from animals to mankind, and give instances or examples of the kinds of diseases so actually communicated, but of course there are many

[These papers appear in full in the *Journal of the Royal Sanitary Institute*].

others which could be mentioned as being spread in like manner.

I have also suggested a fourth possible way in which animals may play the part of carriers or medium in the conveyance of diseases and so contribute to their development in human beings, viz., by what I have termed natural accidental cultivation; and have briefly hinted at the process by which I conceive it possible that this may be achieved. Of course I am well aware that my ideas may not be shared by others who will give what may appear strong and almost conclusive reasons for such objection; but I ask that hasty judgment be not formed without full and unbiassed consideration has been given to these matters.

I have purposely refrained from quoting instances of the transference of disease by members of the animal kingdom inhabiting foreign countries, as I wish to emphasise the importance of the subject under discussion as applying to our own immediate surroundings.

I would also especially direct attention to the transference of disease by domestic pets, and by diseased carcases of the larger domesticated animals, which latter I dealt with, to some extent, in the paper entitled "Notification of Death of Animals," presented at the York Congress last year; and if only some modicum of good results from the puny efforts attempted by the production of this paper, I shall feel that I have not wrought in vain.

Dr. GARRATT, M.O.H., (Cheltenham) said a good many diseases were transferred from animals to men. There was anthrax and glanders. With regard to milk, which they had been discussing so much, a good many diseases were conveyed in milk. There was scarlet fever. In his own experience he had had several instances of scarlet fever being conveyed in milk—not from the cow to the human being perhaps—there was little or no evidence of scarlet fever being so conveyed, but certainly diphtheria had been known to be conveyed from the teats of cows to milk, and thus to human persons. The Medical Officer for Reading some years ago wrote an interesting paper, in which he gave some photographic illustrations of the teats of a cow with ulcers upon them, in which the typhoid bacillus was found. There was the possibility of other diseases being conveyed from animals to man. Recently he saw some tame rabbits in a terrible state of eczema. One was aware that the germ that caused eczema was related to typhoid. These rabbits were suspected of causing disease in that case. As a matter of fact, he had some material examined by the bacteriologist, but he was not able to say it was the typhoid microbe.

Dr. WEBB stated that he could support Mr. Archer's assertion that diseases of animals were communicated to man. He should like to say that in May last a case of diphtheria was reported to him in a row of seven houses. On investigation the case was found to be a child seven years of age. He examined her throat, which showed bacilli. Enquiry elicited that she had been in the habit of taking the cat to bed every night. He suggested that the cat should be destroyed, and it was destroyed. He took some swabs from the cat's throat, and examined them with the aid of a microscope. They showed a mixed infection. Investigation also showed several other cats in the neighbourhood to be affected. They were all destroyed.

Mr. DIXON said any one who had had experience of this matter was in duty bound to contribute to this discussion. Anthrax caused throughout the country, as it did in Leeds, a considerable amount of interest. They frequently had reports from factory inspectors for the Home Office on outbreaks of anthrax occurring in leather works. The authorities immediately made enquiry at the leather works where they received hides

from slaughterhouses, and in most cases foreign hides. They found that anthrax cases occurred among the people who worked the foreign hides. They frequently had reported to them that anthrax had occurred within the last day or two at a farm in the country, from which milk was sent into Leeds. It seemed to him a fatal defect of the Anthrax Order that it should not be compulsory on the local authority concerned to notify the M.O.H. of the place where the dairy's milk was consumed. They had reason to suppose that there might be a cow in a farm suffering from anthrax, and some of the anthrax bacilli got into the milk. Such was their rule in Leeds that when they got to know that a farm had had anthrax they watched the cows to see that they were healthy before the milk was despatched to the town. Anthrax was a dangerous and deadly disease, and more care should be taken with regard to its existence in dairy cattle, and it was most essential to inform the district in which the milk was consumed.

As to scarlet fever, they all remembered the Hendon outbreak, which gave rise to so much concern. Scarlet fever was an instance where the veterinary inspector and the medical officer of health could work in such splendid uniformity and companionship. The medical officer and the veterinary officer each attended to his duties and then met afterwards to confer. In several cases they had failed to find anything to connect cows with scarlet fever, but they had always been able to put their finger on the source of infection—the milker.

The diphtheria point was interesting and important. He remembered reading an account some years ago by a veterinary surgeon on this question of diphtheria and milk. To him it seemed proved that the cow got the bacillus. The cow had not suffered from diphtheria, but had served as a medium on which the diphtheria had grown in the form of an eruption on the udder.

Dr. HAY (Bridport) rose to a point of order, and said he did not quite see the relevancy of Mr. Dixon's remarks. If Mr. Dixon was prepared to give them some instances of disease being transmitted in some uncommon way there might be some object in it. Every one knew that diseases were transmitted from animals to man. If they discussed that question they would be there from then till doomsday.

The PRESIDENT replied that on the point of order he must rule that Mr. Dixon was thoroughly in order. (Hear, hear.) He was giving them now such first-hand information as they were desirous to collect to lay before the medical profession and the public generally. This was the sort of material they wanted. The bacterial methods might be a little more precise, but they did want to hear about ordinary operations in one of the most reliable centres in the country.

Mr. DIXON, proceeding, said an epidemic of sore throat caused great alarm. He was instructed to go to the farm and render what aid he could. He met the resident medical officer, and together they investigated the case. The milk supply was suspected, but he could not find anything in that. They found, however, that the cows were acting as carriers of septic infection from a contaminated drinking pond. When the milk was sterilised the epidemic immediately ceased, and there had been no more sore throat.

Glanders was a danger also, and they were able to deal with many cases of glanders in large towns.

Dr. HILL (Durham) said in Central Africa there were instances of sleeping sickness being transmitted from animals to man. In other tropical regions he had heard of transmission from cows to horses.

Dr. BARLOW (Wallasey) said tuberculosis was easily communicable to guinea-pigs.

The PRESIDENT: Give us any specific instances which are likely to increase our knowledge of the subject.

Dr. BARLOW: I have heard nothing yet to increase my knowledge.

The PRESIDENT: I am extremely grateful for the information I have obtained.

Mr. W. ASCOTT said it was within his own knowledge that milk could contain anthrax bacilli. In one particular case where he was called to a cow which died while he was present, he took samples of the milk, which was full of anthrax bacilli. The milk taken overnight was full of anthrax bacilli.

Mr. A. H. ARCHER (Southsea) in reply, said his own experience in which animals had communicated disease to men, either by directly or by acting as carriers by their excreta or other material got on their coats. Even with a canary the bird was taught and allowed to pick out of the owner's mouth, and when the bird was affected with disease it could be conveyed in that way. He had had quite a number of parrots transmitting disease, such as diphtheria and throat diseases, and even scarlatina, with their bill or by means of their feathers. Mr. Male had asked a question with regard to the transmission of diphtheria from dogs. He had met with cases in which diphtheria had been transmitted from animals to human beings.

PRIVATE SLAUGHTERHOUSES, PUBLIC ABATTOIRS, AND FRIEBANKS, by HERBERT PECK, M.D., C.M., D.P.H., Barrister-at-Law, Medical Officer of Health for the Chesterfield Rural District (member). [Abstract]. Submitted by Dr. HERBERT JONES.

This important subject would be more frequently discussed but for the powerful representation of the meat trade on many sanitary authorities. The insecure conditions on which many sanitary officials hold their appointments frequently prevent them from taking action they know to be desirable, but which would bring them into conflict with members of their councils and probably end in disaster, or at least in loss of prestige.

The main objections to private slaughterhouses are:—

1. The driving of cattle through the streets to the public danger. This is a serious matter in towns, and should not be permitted. The practice also causes suffering which would not be undergone in transit to an abattoir properly served by a railway siding. I have frequently seen pigs lying in a street in a state approaching collapse from the fatigue of a half-mile journey from a railway station to a slaughterhouse.

2. Many slaughterhouses are situated in crowded localities, so that a nuisance of sound or smell is unavoidable. Many do not conform to the model bye-laws of the Local Government Board, which should be regarded as the minimum requirement. Regulations, where such exist, are not always scrupulously or promptly observed, and a nuisance from offal or flies results. What may exist is shown from the following description of a private slaughterhouse taken from the annual report of Mr. Parker, F.R.C.V.S., Veterinary Inspector for Newcastle-on-Tyne:—

"One afternoon, during July last, on entering a slaughterhouse premises within the city, they were found in a filthy condition, dirty sacks and old boxes full of old bones flyblown and filthy were scattered about; a refuse cart standing in the yard was simply overloaded with filth. Part of these premises were used to prepare cooked meat. On entering the fat-mincing room, a large bath was found containing 1 cwt. 104 lbs. of intestinal and other fat, literally alive with maggots. In a tin near the bath was found 1 cwt. of the same fat, also alive with maggots. In another tin was found 1 cwt. 24 lbs. of fat which had just been put through a machine driven mincer, the maggots in this case being ground up with the fat. Large maggots were crawling about the

floor. According to the manager, it was intended to mince the whole fat and then boil it down for dripping, to be sold for human consumption."

Many rural districts are without bye-laws, and it is unusual to find a slaughter-house in them which is satisfactory in all respects.

3. The difficulty of inspection. This is the main objection. The sanitary officials of a town with many private slaughterhouses cannot possibly inspect them all in one day, and as butchers usually kill all on one day, they can inspect only a portion of the meat produced. Some butchers slaughter at night, which puts the presence of an inspector out of the question, except in rare cases. Animals about which there is any doubt are slaughtered at unusual hours.

If these objections apply to a town where the slaughterhouses are comparatively near together, they do so to a much greater extent in country districts. Efficient inspection in these is impracticable. There are immense rural areas containing numerous slaughterhouses, in which unsound meat is rarely or never found or reported. This is not the worst feature of rural slaughterhouses. Dishonest butchers, trading in a town where careful supervision exists, do not kill in the town, but in some neighbouring district where sanitary administration is less efficient. A case recently came to my knowledge in which a man killed good cattle in his slaughterhouse, while he killed others, brought at "screw" prices, at one in another district, registered in the name of another person.

It must not be assumed that all butchers are dishonest and anxious to put off bad meat at the price of good, but I do not hesitate to say that nothing but a fraction of the bad meat produced is ever seized or surrendered. Obviously diseased parts are removed from an unsound carcase in the great majority of cases, and the remainder sold for human consumption. This is proved sufficiently well in the absence of the figures for private slaughterhouses by the difference between the practical nil of the rural districts and the percentage found diseased in public abattoirs.

The German Imperial Law of 1900 regulates the sale of meat, and contains many beneficent precautions. It is too long for even partial quotation, but should be studied by all sanitarians. Under it, all animals are subjected to ante-mortem, as well as post-mortem, examinations, although the former may be foregone in cases of emergency, which are defined, and also the latter when the animal is killed for the use of the owner's household. The fees are moderate. In North Germany they are 2 marks for an ox or horse, 1 mark for a pig, and 75 pfennigs for a calf, sheep, or goat.

Systematic inspection should be adopted in this country. To ask for it is to ask for nothing new. It was practised in Ancient Babylonia, Greece, and Rome; by the followers of Moses and Mahomet; it obtains today in Germany, Belgium, France, Holland, Spain, Italy, Austria-Hungary, Roumania, and Switzerland. Great Britain, especially its southern portion, should "wake up!" Why should England lag behind Ancient Babylonia?

The improvement that follows regular inspection was well shown in the case of a town for which I was medical officer of health. There were for many years a number of butchers who brought inferior meat to the weekly open-air market, and sold it at low prices. Much of it, in the absence of microscopical evidence, could not be seized as diseased, but whenever it could be positively recognised as such, it was seized and the vendor prosecuted. The magisterial bench supported the sanitary authority, and inflicted such salutary punishment that the number of butchers keeping stalls in the market decreased from 50 to 37, and it became possible for a person to buy in that market and be reasonably sure of getting something fit to eat. Sixteen

to twenty butchers had stalls in a weekly open-air market in my present district at the time I took up my duties. The reputation of the meat exposed for sale may be inferred from the remark of a butcher when I seized some of his meat, on what was by a coincidence the first occasion on which either of us had visited the market: "Why, I was told I could sell anything here!" Regular inspection by myself at first, and by a resident inspector later, reduced the number of butchers attending the market to two, to the advantage of the local tradesmen. The traffic still goes on, and the same men as formerly are engaged in it, but in other markets. An inspector, who was instrumental with myself in getting three months hard labour on two occasions for a "slink" butcher, meeting him recently, said: "Where have you been this long time?" and received the answer: "Selling in a place where we never see an inspector, and where an honest man can drive an honest trade!"

All that is condemned is a loss to the butcher, but probably a greater loss to the farmer, for the butcher protects himself by giving low prices for inferior stock. The ultimate loss falls on the community. If the amount destroyed was greatly increased, the price of meat would rise, but something can be done by the institution of the Freibank, where the meat of inferior quality by reason of age or disease, is sold after being rendered wholesome by cooking, pickling, or in other ways. There was one in Augsburg in 1276, another in Hamburg in 1375; they are now common in Germany, and have been established in Belgium, France, and Italy. They render saleable large quantities of meat which would otherwise not be used as food, or would be so used without being rendered harmless.

The averages for the Kingdom of Saxony for the years 1894, 1896, and 1899 were: Animals killed, 887,770; admitted to market without restriction, 99.24 per cent.; destroyed, 0.13; delivered to the Freibank, 0.71. These figures show that more than 84 per cent. of the diseased meat was rendered fit for consumption.

There were utilised on the Freibank in Leipsic in 1891 the meat of 604 cattle, 89 calves, 28 sheep, 983 hogs, and 104 parts of carcasses, which weighed 271,609 kilogrammes, equal to 598,626 lbs., or 267 tons.

Dr. MILLER (Hereford) in seconding the resolution, said there was no doubt whatever of the value of the public slaughterhouse, and he thought the time had come when there should be public slaughterhouses throughout the country, and private slaughterhouses abolished. (Hear, hear.)

Dr. GARRATT (Cheltenham) said he hoped that Mr. Burns would bring in a Bill, either in connection with something else or independently, which would lead to the establishment of public abattoirs in all towns and the abolition of private slaughterhouses. He was sure that that could not be done except by some definite set legislation. (Hear, hear.)

Dr. WEBB said in his opinion, and in the opinion of all men engaged in meat inspection, this was nothing more nor less than a farce. It was impossible to inspect in any area of any size where slaughtering went on at all times. His experience was that there were a certain number of men who bought on what he called the "off chance." If it was tuberculous it went through, and they made money. In his district it was absolutely impossible to inspect meat adequately. In his opinion this was a State question. The whole thing should be taken in hand by the Government. Regulations should be made hard and fast for every district—rural, urban, and county borough. He would make an Order to hall-mark the meat, so that if it was moved from one place to another it would be recognised.

Alderman A. SHELMEKDINE (Liverpool) said his experience was that butchers' slaughterhouses were held by certain people whose licenses, under an old Act of Parliament, held good for the life of the individual. They had found in years gone by that animals in the last stage of tuberculosis had been taken to these private slaughterhouses and slaughtered, say, at four o'clock on a summer's morning, and that meat was dressed so that it could be sold as cheap meat. It was only on the death of the licensee that anything could be done.

Mr. C. CASH thought Dr. Peck had made a strong case for slaughterhouse reform. He came from a town where they had been fighting for a public abattoir for fifty years, and where the authority was as far from getting one now as when they started. Other towns were in the same evil plight. Petitions for it always failed against the organised opposition of the trade, and before they got through the difficulties of the site, the cry of increase of the rates was raised. It seemed to him that the only way in which this matter could be satisfactorily dealt with was by legislation. (Hear, hear.) A Bill passed in Germany in 1868 empowered any municipality to abolish a private slaughterhouse after due notice given.

Mr. LUDD remarked that it fell to his lot to visit slaughterhouses from week to week, and he could assure them that many of them were a disgrace to any town. Some were not more than ten or twenty feet away from private houses. He was sorry that the Councils did not move as fast as they ought to. They had butchers and slaughtermen on the Councils, and those present knew what the meaning of that was. If the inspector was a bit nervous, he was afraid to bring forward any complaint, and if he did bring it forward he was told that he had to see that the place was kept clean. It was impossible. Butchers were there early mornings, sometimes late at night, and sometimes on Sundays. If it was a bad bullock it was taken in on a Sunday. These were the things existing in some of the private slaughterhouses, and the sooner they were done away with the better it would be for all parties concerned. With regard to the rural districts, he questioned whether the cattle were taken to slaughterhouses at all. They had been killed in the linbay or the barn and had been cut up and sent to the larger centres, and nobody to look after it. He supported the resolution with all his heart, as he had supported the idea for more than twenty years.

The PRESIDENT said he should have been glad if the meeting had made suggestions which would render an Act of Parliament practicable. It was much more convenient to go to a butcher and examine the meat in a public abattoir. But they must cast their minds back to the name of the gentleman who spoke last. Even in a place of 10,000 inhabitants an abattoir could be economically arranged. He did not oppose the resolution, which had so much in its favour from the point of view of public health, that if there were not the obstacles noticed in the paper, and by the framer of the resolution, the thing would have been done twenty-five years ago. They must not suggest to one portion of the community (the agricultural portion) that they were all dishonest, but there were great difficulties associated with it, and if they could send to Mr. John Burns to say how the Local Government Board could deal with the country districts they would get an Act passed as soon as possible. Some of the difficulties were extremely real, desirable as he thought the purpose of legislation on the subject would be.

Mr. W. LOVE (Lanarkshire) said they had erected abattoirs in Lanarkshire all over the county, and their experience had been that since they had made these

erections and had proper inspection by competent men, many diseased animals had been found to come in from the other counties, but as they were condemned the owners had no return for their diseased cattle.

The PRESIDENT said they did not want any more piece-meal legislation. They wanted the whole thing uniform. (Hear, hear.) They would have to spend a large sum in compensation to the owners of private slaughterhouses.

Mr. MALE: I should like to see it more explicitly stated who is to carry out the inspection.

The PRESIDENT: I don't think that that is before you.

Mr. J. CRATHORN (Paignton) said if the Councils were willing to pay compensation, and to meet the cost of public slaughterhouses, he did not see any difficulty whatever in obtaining a private Bill. He represented a small district of about 12,000. Two years ago they were promoting a Bill for other purposes, and they had one or two clauses put in dealing with the abolition of private slaughterhouses at the expiration of three years, and giving the Council power to build an abattoir. If they could get that in a small district, he did not see why larger places should not be able to do it.

Dr. GARRATT (Cheltenham) pointed out that occupiers and owners of private slaughterhouses claimed enormous sums by way of compensation. They wanted a direct means of dealing with the question. He supposed the Inspectors of the Local Government Board would have some practical suggestions to make with regard to authorities in small places where slaughterhouses existed; he should say that these slaughterhouses should be licensed, as they proposed to license a milk place, that they might be kept under supervision. Lanarkshire had shown the way. Presumably some such system also existed in France. There was nothing to prevent slaughterhouses on absolutely sanitary lines being erected by public authorities.

The PRESIDENT pointed out that local authorities had the powers, but they were not compulsory.

Dr. GARRATT: We have no powers to compel butchers to use the abattoirs.

Dr. H. JONES, replying to the discussion, remarked that as a fact there was no law in regard to the regulation of slaughterhouses in rural districts. A man might erect a slaughterhouse without being registered or licensed at all and unless the rural districts had applied for and obtained urban powers there was no control over him. The next point is that it is idle for Liverpool or for any other district, to spend thousands of pounds in erecting public abattoirs if in the area outside their district butchers might sell with impunity without any form of license or registration at all. (Hear, hear.) In Cardiff, where there was not a single private slaughterhouse, they found that the usefulness of the abattoir was enormously lessened, because people simply went out into the rural districts and did what they pleased. Years and years ago, when the Public Health Act was first brought in, it seemed to be thought that the sanitary districts could keep to themselves within a sort of ring fence, and that they had nothing to do with anyone outside. If it was the case at that time, it certainly was not the case now. If there was one question which should be treated nationally it was this question of slaughterhouses. (Hear, hear.) The first thing the President of the Local Government Board would have to do was to see that in rural districts slaughterhouses were regulated. The laws with regard to slaughterhouses should be the same all over the country, they must treat it absolutely as a national question. (Hear, hear.) He thought the point that they ought to carry home with them was that in Lanarkshire they had erected public slaughterhouses in rural districts. Scot-

and was ahead of them in England in this, as in many other matters. The only way in which they could get out of many of the difficulties was to give their officials security of tenure. (Hear, hear.)

The resolution was carried unanimously.

This concluded the business of the Conference.

SECTION A. SANITARY SCIENCE AND PREVENTIVE MEDICINE.

THE PREVENTION OF HUMAN TUBERCULOSIS OF BOVINE ORIGIN (PARTICULARLY FROM THE POINT OF VIEW OF THE TUBERCULOSIS ORDER, 1913), by WILLIAM G. SAVAGE, M.D., County Medical Officer of Health, Somerset.

This problem involves three considerations:—(1) The extent to which human tuberculosis is of bovine origin; (2) The prevention of human infection from bovine sources; (3) The diminution of bovine tuberculosis.

As regards the relationship of bovine to human tuberculosis, and the intercommunicability of the two types, I do not propose to make any extended remarks. Every person who has read the careful experiments and deductions of the last English Royal Tuberculosis Commission, backed up and confirmed as they are by numerous experiments carried out in other parts of the world, can have no doubt of the relationship, although there is still room for discussion as to the amount of human tuberculosis of bovine origin.

We may accept the words of the Royal Commission.

"There can be no doubt but that in a certain number of cases the tuberculosis occurring in the human subject, especially in children, is the direct result of the introduction into the human body of the bacillus of bovine tuberculosis; and there can also be no doubt that, in the majority at least of these cases, the bacillus is introduced through cows' milk. Cows' milk containing bovine tubercle bacilli is clearly a cause of tuberculosis, and of fatal tuberculosis, in man."

We are not yet in a position to definitely state the proportion of human tuberculosis of bovine origin, although data are steadily accumulating. In my opinion the most reliable estimate is that based upon the determination in human cases of the types of tubercle bacilli present.

Apart from exceptional circumstances, bovine infection to man is spread entirely from tuberculous meat and milk, including milk products. Of these, milk, and to a less extent butter, is by far the most important, and must be regarded as the main vehicle of infection.

Considering milk alone, the second consideration resolves itself into, How far can human infection be prevented from tuberculous milk?

Roughly speaking, not less than 10 per cent. of ordinary milk samples contain tubercle bacilli in an active virulent condition (to the guinea-pig). In milks sent to Sheffield, for example, examined in 1911, the percentage was 9.8; in London for the same year 10.8 per cent.

These bacilli are derived from cows suffering from tuberculosis; but, as is well known, not all tuberculous cows excrete tubercle bacilli, but only those which are "open" cases of tuberculosis. For practical purposes such cows comprise three groups: (a) advanced cases of tuberculosis; (b) cows suffering from tuberculosis of the udder; (c) cows suffering from "open" tuberculosis apart from (a) and (b).

Undoubtedly group (b) is the most important source of tubercle bacilli to milk, while group (c) furnishes the smallest number of tubercle bacilli.

The administrative procedure for dealing with these animals is contained in the Tuberculosis Order, 1913,

of the Board of Agriculture, which came into force May 1st last. It is important to consider the extent to which this very important Order is likely to eliminate altogether or to diminish the presence of tubercle bacilli in milk.

In the words of the covering circular of the Board, the Order "aims at securing the destruction of every cow found to be suffering from tuberculosis of the udder, or to be giving tuberculous milk, as well as of all bovine animals which are suffering from tuberculosis with emaciation."

To detect these animals, two lines of procedure were available. On the one hand local authorities might have been required to arrange for systematic inspection of the cows and bovine animals in the area under their jurisdiction, with the view of finding the above classes of tuberculous animals; or, on the other hand, all owners of such animals might be required to notify them to the local authority. The second procedure has been adopted, and it is now the duty of those owning such animals to give information of the fact to an officer of the local authority without avoidable delay.

In the practical working of this Order certain criticisms and questions suggest themselves, of which the most important is the extent to which it is likely to result in an elimination of tubercle bacilli from milk. It is clear that only a diminution of the percentage of tuberculous milk, and not a total elimination, is to be looked for.

In the first place, both as regards cows suffering from tuberculosis with emaciation ("wasters") and cows suffering from udder tuberculosis, particularly the latter, it will, I believe, inevitably result that, in at least many cases, there will be a long delay, possibly of many months' duration, between the time these cows become active distributors of tubercle bacilli into milk and their detection by the veterinary inspector of the local authority. During this period not only will tubercle bacilli be added to the milk, but these highly dangerous animals will have abundant opportunities of infecting cows in the herd.

Again, not only will detection be frequently late in the course of the disease, but in the case of tuberculosis of the udder a number of cases will be overlooked and missed. The published opinions of expert veterinary authorities clearly show that even with competent and skilful veterinary surgeons the diagnosis of early tuberculosis of the udder may be a very difficult matter. This point is so important that a few authorities may be quoted in support of it. For example, Dewar says—

"In the udder the progress of the disease is often slow, and there is no doubt but that it may exist for weeks in such a condition as to render the milk dangerous before the most expert clinician could detect its presence."

Nocard remarked that the diagnosis of tubercular mastitis is

"Both urgent and difficult; the clinical symptoms are vague, and generally point to a range of probabilities which are more or less certain. Even if the cow has reacted to tuberculin, it does not necessarily follow that the induration of its udder is tuberculous, for tuberculous cows, as well as healthy ones, are liable to contract mastitis of various natures."

Prof. Delépine, who has had great experience in this problem, remarks:

"Tuberculosis of the udder can be detected with great accuracy by a combination of veterinary inspection of the cows and of bacteriological examination of milk obtained from udders showing signs of disease, more especially enlargement and induration. It is, unfortunately, impossible for the most experienced veterinary surgeon to distinguish by inspection and palpation tubercular mastitis from all other forms of mastitis.

It is also practically impossible for the veterinary surgeon, unaided, to discover by ordinary inspection early tuberculous lesions of the udder."

Delépine, indeed, found in his work at Manchester and working with highly experienced veterinary inspectors, that not more than one third of the udders, which on inspection appeared to be possibly affected with tuberculosis, were on bacteriological examination proved to be actually tuberculous. The Sheffield results afford evidence in the same direction.

Finally, the discrepancy between clinical and post-mortem results may be mentioned. As an example, the following data from a report of Dr. Wilson, county medical officer of health, Lanark, may be quoted. He found that out of 42,024 cows examined in four years by experienced veterinary surgeons only '08 per cent. showed udder tuberculosis. In contradistinction to this, at the Bellshill Public Slaughterhouse, where careful records are kept, the number of cows found to have had udder tuberculosis was about 2.6 per cent. He concludes, as regards udder tuberculosis, that "at present we may assume that less than one-thirtieth of the actual number can be detected."

While certainty in the diagnosis of udder tuberculosis cannot be attained by clinical examination alone, many if not most of the difficulties can be removed by the use of combined clinical and bacteriological examinations. The Tuberculosis Order contemplates the use of such combined examinations; and the Board of Agriculture, in their Circular of March 25th, 1913, directs local authorities to

"Issue instructions to their veterinary inspectors that in the case of cows suspected of having tuberculosis of the udder or giving tuberculous milk; samples of their milk should be centrifugalised and examined for tubercle bacilli with the microscope."

It may be mentioned in passing that while simple microscopic examination is usually sufficient to detect tubercle bacilli in milk samples from individual cows, it is not only quite unreliable for mixed milk samples, but in a certain proportion of single cow samples the bacilli will fail to be detected, particularly if the sample is badly collected.

Summing up the matter as regards tubercle bacilli in milk, it is evident that if the Order is properly and vigorously put into force, there will be a considerable and very valuable reduction in the amount of tubercle bacilli in milk, but very far from a complete elimination of tuberculous milk. Tubercle bacilli will still gain access to milk from the following sources: (a) "wasters" and udder tuberculosis cases not yet reported and slaughtered; (b) missed cases of cows suffering from udder tuberculosis; (c) cows with other varieties of "open" tuberculosis neither reported nor detected.

The benefit is very considerable, but the compensation to be paid is very heavy, and, in my opinion, can only be justified if it is largely a non-recurrent expenditure, or at least one which will very largely diminish within a few years. While everyone admits that the expenses in the first few years will be very heavy and out of proportion to the normal expenditure, it is usually advanced that after a few years there will be a great diminution of the compensation to be paid, due to a diminution in bovine tuberculosis generally, and particularly in the varieties of tuberculosis which have to be notified.

It is clear that the prevention of human tuberculosis of bovine origin cannot be separated from the prevention of tuberculosis amongst bovine animals, and that no steps can be permanently satisfactory unless they definitely aim at a diminution of the total bulk of bovine tuberculosis. I am not sanguine that the present Tuberculosis Order, as it is likely to be put into operation in the different areas, is likely to largely diminish the amount of bovine tuberculosis.

It has been shown above that at least the great majority of cases of udder tuberculosis and "wasters" will not be detected and slaughtered until *after* they have been actively excreting tubercle bacilli for long periods and have had abundant opportunities of infecting other cows in the herd. When the other cows have been exposed to extensive and continuous infection, and a considerable proportion has become infected, the local authority steps in and removes the active centre of infection.

It is much worse than trying to prevent the spread of human tuberculosis solely by the removal of advanced human cases, since the latter can be taught to control their expectoration, while cows are especially sensitive to infection. Also the grossly insanitary condition of many cowsheds greatly favours infection.

Apart from the slaughter of the specific groups of tuberculous animals, the preventive work in the Order is not extensive. Under Article 4 of the Order, as the first circular of the Board remarks:

"The veterinary inspector will be able to extend his examination to any bovine animals upon the premises that have been associated with a diseased animal, in order that he may at the same time take steps to deal with any other bovine animal which in his opinion presents clinical symptoms of tuberculosis."

In their March 25th circular they repeat this advice, and say the examination should be extended to other bovine animals on the premises, and particularly to all milch cows.

The Order itself, section 4 (1) states that any veterinary examinations to be made are such "as in the opinion of the local authority is necessary." Any preventive work of this nature clearly, therefore, rests with the local authority, and the more active they are the

greater the compensation they will have to pay for the first two years.

So far as I have been able to ascertain, most local authorities are looking at the problem from the purely financial standpoint, at any rate in the rural districts.

To work the Order on the best preventive lines, it would be necessary to provide a staff of whole-time veterinary inspectors, who would make it their business to thoroughly examine all herds, the milk from which showed the presence of tubercle bacilli, or from which a notification had been received.

It is, as yet, too early to say what will be done in the different counties, but I believe it will be found that in the majority of cases the Order will be worked with a minimum of expense through the local veterinary inspectors now employed in connection with the diagnosis of disease under the Diseases of Animals Acts, and that active preventive work will not be encouraged. This, of course, is a very short-sighted policy, and will largely result in perpetuating the compensation to be paid.

If this forecast is unfortunately realised, I think we must not accept this Order by itself as likely to play any great part in the diminution of bovine tuberculosis in the bulk, and therefore as being most inadequate, and inadequate in itself. I rather look upon this Order as a first instalment, and possibly goes as far as it is now wise to go, but is incomplete in itself, and must be followed by an extended use of true preventive measures.

These preventive measures must include active educational propaganda, not only to explain to farmers the nature and lines of prevention of tuberculosis in cattle, but also to educate the public to an appreciation of milk free from tubercle bacilli, and should be developed on the lines of assisting the farmer to rear a tuberculosis-free herd.—*Journal of the Royal Sanitary Institute.*

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders † (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered.*
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
GR. BRITAIN.													
Week ended Aug. 30	8		8				3	3	15	23		44	505
Corresponding week in {	1912	12	13				3	4	12	20	3	30	522
1911	22		24				5	7			1	31	541
1910		20		21			3	13			4	29	146
Total for 35 weeks, 1913	381		418				116	297	1911	3851	129	1716	23112
Corresponding period in {	1912	566	643		70	442	123	232	2348	5094	173	2218	28901
1911	584		731		8	425	132	312			307	1768	20798
1910		1000		1207	2	15	251	775			339	1000	8858

† Counties affected, animals attacked: Durham 1, Kent 1, London 1.

Board of Agriculture and Fisheries, Sept. 2, 1913.

IRELAND. Week ended Aug. 30	...	...	...	...	...	...	...	...	Outbreaks 2	8	2	15
Corresponding Week in {	1912	...	...	3	20	...	...	...	...	...	5	28
1911	...	...	2	...	...	...	...	...	1	...	1	4
1910	...	...	...	...	...	...	...	...	2	1	...	...
Total for 35 weeks, 1913	...	...	...	...	...	...	...	...	98	374	112	667
Corresponding period in {	1912	...	3	3	24	26	...	...	52	262	177	1482
1911	...	...	7	14	...	...	...	3	50	253	92	1579
1910	...	...	5	8	...	...	...	2	54	349	71	1693

† These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Sept. 1, 1913

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Return showing the number of Premises on which the existence of TUBERCULOSIS has been notified to the Board of Agriculture and Fisheries during the month of August, 1913.

ENGLAND (Counties)	*	ENGLAND (continued)*	
Bedford (Premises)	2 2	Sussex, East	9 9
Berks	3 3	" West	2 2
Buckingham	2 2	Warwick	3 3
Cambridge	2 2	Westmoreland	2 2
Chester	37 42	Wilts	18 22
Cornwall	7 7	Worcester	12 15
Cumberland	2 2	York, East R.	5 6
Derby	20 22	" North R.	17 17
Devon	10 10	" West R.	31 31
Dorset	2 2	WALES.	
Durham	7 8	Anglesey	5 5
Essex	5 5	Cardigan	1 1
Gloucester	6 7	Carmarthen	1 1
Hants	6 6	Carnarvon	1 1
Hereford	1 1	Flint	5 6
Hertford	7 7	Montgomery	2 2
Huntingdon	5 5	SCOTLAND.	
Kent	15 18	Argyll	1 1
Lancaster	41 43	Ayr	9 11
Lincoln, Holland	1 1	Bute	1 1
" Kesteven	11 12	Clackmannan	1 1
" Lindsey	10 10	Dumfries	3 3
London	8 9	Forfar	4 4
Middlesex	5 5	Haddington	2 2
Monmouth	1 1	Kirkcudbright	5 5
Norfolk	3 3	Lanark	4 4
Northampton	4 4	Midlothian	
Northumberland	5 5	(ex City of Edin.):	1 2
Notts	7 7	Perth	1 1
Oxford	2 3	Renfrew	1 1
Salop	6 6	Roxburgh	1 1
Somerset	12 14	Stirling	2
Stafford	13 16		
Suffolk	2 3		
Surrey	8 10		
		TOTAL	428 465

* Number of bovine animals suffering from tuberculosis of the udder, tuberculosis with emaciation, or giving tuberculous milk, in respect of which notice of intention to slaughter has been received.

Charge of Cruelty Dismissed.

EXPERIMENT ON A DONKEY.

At Runcorn on Monday last, Dr. Warrington Yorke, head of the Research Laboratory of the Liverpool School of Tropical Medicine, and an expert in sleeping sickness, was charged with cruelty to a donkey by neglecting it.

The evidence of the Police and of the Inspector of the Prevention of Cruelty to Animals Society was that the donkey lay for over a week in a field apparently dying, without shelter from the sun and tormented by flies. It was apparently paralysed and could not move, while there were sores on its hind quarters.

Dr. Yorke's defence was that the animal had been given a new drug experimentally, and felt absolutely no pain while in the field, though an untrained observer might think it did. He killed it immediately the result of the experiment was known. It was fed and watered daily.

The Bench said the Society should have made a more careful investigation. The charge was dismissed with two guineas costs against the Society, whose solicitor intimated that there would probably be an appeal. —The Times.

The Practice of Vivisection.

The Home Office have issued a Return showing the number and nature of experiments performed on animals in England, Scotland, and Ireland during the year 1912 under licences granted by the Home Secretary [270].

Including 16 whose licensees expired on February 29, 1912, the total number of licensees was 598, and of these, 151 performed no experiments. During the year new places were registered for the performance of experiments at Aberdeen, Ayr, Cambridge, Glasgow, Greenwich (the pathological laboratory of the Royal Naval College), and Whitechurch, Glamorganshire. In London, the conjoint laboratory of the Royal Colleges of Physicians and Surgeons at Queen's Square, Bloomsbury, was substituted for the conjoint laboratory on the Victoria Embankment, and the London School of Medicine for Women, Hunter Street, was registered.

The total number of experiments was 83,599, being 11,604 less than in the preceding year. The experiments included in Table IV. (A), in which all serious operations are placed, numbered 5,043, a decrease of 47. Of that total, 2,803 came under the provisions of the Act that the animal must be kept under an anæsthetic during the whole of the experiment, and must, if the pain is likely to continue after the effect of the anæsthetic has ceased, or if any serious injury has been inflicted on the animal, be killed before it recovers from the influence of the anæsthetic. In the case of the other 2,240, the initial operations were performed under anæsthetics, from the influence of which the animals were allowed to recover. These operations are required to be performed antiseptically, so that the healing of the wounds shall, as far as possible, take place without pain. If the antiseptic precautions fail, and suppuration occurs, the animal is required to be killed. After the healing of the wounds, animals are not necessarily, or even generally, in pain, since experiments involving the removal of important organs, including portions of the brain, may be performed without giving rise to pain after the recovery from the operation, and after the section of a part of the nervous system, the resulting degenerative changes are painless. In the event of a subsequent operation being necessary, a condition is attached to the licence requiring all operative procedures to be carried out under anæsthetics of sufficient power to prevent the animal feeling pain, and no observations or stimulations of a character to cause pain are allowed to be made without the animals being anæsthetised. The number included in Table IV. (B) were 78,556, a decrease of 11,557. These experiments, which are all performed without anæsthetics, were mostly inoculations. In no case was a certificate dispensing with the use of anæsthetics allowed for an experiment involving a serious operation. The results in a very large number of these experiments were negative, and the report states the animals suffered no inconvenience whatever from the inoculation. In the event of pain ensuing as the result of an inoculation, a condition attached to the licence required that the animal should be killed under anæsthetics as soon as the main result of the experiment had been obtained.

During the year 24,870 experiments were performed by 24 licensees, working at eight institutions, in the course of cancer investigations. The great majority were almost entirely inoculations into mice. Eighty-two licensees reported over 22,000 experiments which were performed for Government Departments, county councils, municipal corporations, or other public health authorities, and 15 licensees performed over 12,000 experiments for the preparation and testing of antitoxic sera and vaccines, and for the testing and standardising of drugs.

Royal Dublin Society's Horse and Sheep Show.

On Tuesday, 26th ult., in fine and pleasant weather, the great annual Show opened at their splendid premises at Ballsbridge, and on the present occasion the numbers of visitors present early on the opening day, which is devoted entirely to judging, went to show that the function remains more attractive than ever.

The number of horses entered this year marks a substantial increase on last year's figures, chiefly in the hunter classes.

	1912.	1913.
Stallions	...	28
Yearlings	...	104
Brood Mares	...	42
Hunters	...	464
Young Horses suitable for Hunters	271	250
Riding Cobs and Ponies	...	62
Harness Horses	...	108
Trotting Horses	...	36

1,115 1,183

Quality was well maintained. Particularly was this the case amongst the young animals, which made a fine display, and were of great promise. Judging by the attendance of purchasers on behalf of Continental powers, many of these are destined for foreign use. In spite of this drain, it is highly satisfactory to note that quality is being well maintained, largely due to some capital sires which are located in the country, and are proving impressive.

Although this annual show is usually termed "The Horse Show," it must be remembered that from a practical farmer's point of view it includes another and most important phase which is apt to be forgotten. The sheep show is one which should not be ignored, and it is only because of the outstanding importance of the equine section that the other one is sometimes overlooked. Last year, owing to the unfortunate outbreak of "dirty mouth" in cattle, no sheep show was held, but this year we have again the winners at the southern shows, Cork and Maryborough and Athy, competing against the prize takers at Belfast, Ballymena, Newtownards, and other important northern fixtures. That indeed, is where the Dublin Show scores: it comes on near the end of the season, after the local functions have carried out a sort of weeding process. Similar selection occurs in the case of the horses, and the splendidly bred chasers of the Southern half of the island meet in competition with the best that the North can produce. Further, the judges at Dublin are not men who have been accustomed to see the same animals at show after show in any one Irish district or province: they are largely strangers to local Irish shows, and, in any case, their standing is such that one can depend on their judgment being absolutely unbiassed. Thus it is that, apart altogether from the value of the prize money, though that is not to be despised either, a prize at the R.D.S. Show, either in the equine or ovine classes is no small honour, and something of which to be proud. Long may it be so, for so long as it is maintained in its present open and honest manner the proud position of the Dublin Horse Show, as one of the finest in the world, may be taken as unassailable.

In regard to quality, almost all the breeds which were to be seen in the sheep section showed an improvement upon previous years, and particularly was this the case with the Border-Leicesters. It was disappointing that no entries were received for Cheviots, and for Suffolks there were no entries in the shearing ram class. The numbers entered for each breed this year is shown below with those for the last two occasions on which a sheep show was held, bearing in mind that last year (1912) the sheep section was absent.

	1913	1911	1910.
Border-Leicester	51	56	52
Roscommons	19	19	20
Lincoln	35	33	39
Blackfaced Mountain	20	30	20
Shropshire	41	50	36
Oxford	29	23	50
Suffolk	6	7	5
Cheviot	—	6	—
	201	224	222

—The Farmers' Gazette.

Personal.

Mr. D. C. MATHESON, F.R.C.V.S., has been appointed by the Governors of the Royal (Dick) Veterinary College, Edinburgh, to be Professor of Pathology and Bacteriology in the College. At present Mr. Matheson is on the veterinary staff of the Board of Agriculture and Fisheries. He taught in the Veterinary School of Liverpool University for five years and acts as one of the examiners there. He is a native of London.

Mr. W. A. DELLA GANA, F.R.C.V.S., Southampton, acted as judge of the horse shoeing competition at the Arundel, Littlehampton, and District Show, at Arundel Park, on Wednesday, 27th ult.

At the Seventeenth Annual Show of the Ross-shire Crofters' Club, held at Evanton, Ponies—M.I. Type Class, were judged by Capt. Macintyre and Mr. Gair, M.R.C.V.S., Conon.

In the Cattle Section chief interest lay in the tuberculin tested cattle, there being a large entry, and very keen competition.

"A feature of the Crofters' Show was the exhibition of tuberculin-tested cows, in connection with which Mr. Gair, the Conon V.S., has done so much pioneer work in Ross-shire in the past two or three years. It is undoubted that Mr. Gair's enthusiasm and labours have given us, in Ross-shire, greatly-improved stocks of cattle, especially cows for the supply of milk not only for dairies, but for the crofter and farmer's own households. What this means in improved health in the community, as well as improved stocks, cannot be overestimated, and we hope that the testing will be carried out still more extensively in the future. It is gratifying to know that, following Ross-shire's example—and Mr. Gair's—Public Authorities in other parts are taking up this matter as never before."—*The North Star and Farmers Chronicle*. (Dingwall).

OBITUARY

WALTER HENRY KEMP, M.R.C.V.S. Vet.-Maj. late A.V.D., Graduated, Lond: Dec., 1869.

Maj. Kemp died on Aug. 2nd, at Mussooree, India.

JAMES TAYLOR, M.R.C.V.S., Wix, Manningtree, Essex. Lond: April, 1864.

Death occurred on Aug. 30th, from arterio-sclerosis. Aged 70 years.

JOHN YOUNG, M.R.C.V.S., East Calder, Edinburgh. 1870, Edin: Jan., 1880.

Death took place on Aug. 31st, from carcinoma of the stomach, at the age of 66 years.

Original articles and reports should be written on one side of the paper only and authenticated by the names and addresses of writers, not necessarily for publication.

THE VETERINARY RECORD

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EDITED BY WILLIAM HUNTING, F.R.C.V.S.

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COMPULSORY NOTIFICATION.

The discussion of the Tuberculosis Order by the Midland Counties V.M.A., the report of which we publish this week, contains some unexpectedly hostile references to the compulsory notification of scheduled disease by veterinary surgeons. The smallness of the sum paid for notification, and the possibility of offending clients by notifying, were the objections adduced. Neither is sufficient excuse for contravening an Order of the Board of Agriculture which has now been in force unchallenged for more than three years, and the principle of which has been supported by the profession for a very much longer period.

Our own history in connection with compulsory notification should be remembered. It is now nearly twenty years since the profession was circularised upon the question, and a large majority decided in favour of compulsory notification with a fee attached. The decision was not acted upon for many years, but the opinion of the profession did not change; and the establishment of compulsory notification in 1910 passed almost without comment.

The legislation compelling notification places the veterinary practitioner on the same footing as the medical man with regard to scheduled disease. It does not enjoin him to search the premises he may visit for evidence of disease. It does require him, when he is employed to examine an animal which he believes or suspects to be suffering from a scheduled disease, to notify the fact to the proper authority. The fee is small, but it is not the only fee which the examination yields, and it suffices for the slight trouble of notification—most men will admit this. Probably the real root of any present objection to compulsory notification is the fear of offending clients, but the importance of this point may easily be exaggerated. Few clients will find fault with a practitioner for notifying disease if the law relating to it is clearly explained to them, and it is to the interest of our clients and of the community that this should be done. Before the days of compulsory notification, our position with regard to scheduled disease was difficult. We were not obliged to report—we might even have been actionable for breach of confidence if we did report—and so we were often compelled to see the law evaded. The legislation obliging us to notify released us from that unenviable position, and enables every practitioner to do his duty to the State.

ABOUT CONGRESSES.

We have given space this week to some notes about Congresses, because they are sent by an old contributor—one of our earliest, and because we think that his argument is valid—that no such Congress as the one to be held in England next year has ever been held here before, and that few of our members—probably not more than 20, have attended the others of the series held on the Continent. Consequently the majority of our members have little idea of the scale on which such functions are carried out, nor, generally, of the scope of the meetings for which they have so frequently been asked to contribute the “sinews of war,” in order to do honour to their guests, and in so doing to honour themselves.

ENTROPIUM SPASTICUM IN A HORSE.

Becker records (*Zeitschr. f. Veterinark.*) the case of an officer's horse, eighteen years old, which he treated; in the first place for a violent conjunctivitis and keratitis. After a fortnight's treatment the case had improved; and then suddenly a relapse set in. The conjunctivitis and keratitis were now more severe than at the beginning of the illness; and, in addition, an entropium appeared. Recovery could now only be gained by the entropium operation.

After the most severe inflammatory symptoms had been subdued, Becker performed the operation upon the standing horse, under local anaesthesia with cocaine and adrenalin. The skin of the upper eyelid was taken up into a high fold, and adjusted so as to bring the edge of the lid into its proper position. The fold was then removed with scissors, leaving an elliptical cutaneous wound, with a breadth of seven millimetres (= 7-25th inch) between the edge of the wound and that of the eyelid. The skin was then sutured and several layers of gauze and a bandage applied to the eyelid.

Upon the fourth day, however, it became evident that the entropium was only partially overcome; and a second operation was therefore undertaken on the eighth day. This time the fold of skin was drawn so high that the edge of the upper eyelid was slightly everted, thus constituting a slight ectropium. In other respects the operation was carried out as the first one had been.

The next day the ectropium had become more marked, and it was feared that too much skin might have been removed. This fear was groundless. The operation resulted in the complete re-

removal of the entropion; and the conjunctivitis and keratitis also gradually disappeared.

Becker explains the origin of the entropion as follows: The horse suffered repeatedly from a catarrhal conjunctivitis associated with irritation, and sought to relieve the irritation by rubbing against the manger and protruding the third eyelid. In consequence of this the eyeball was drawn back in the orbit by contraction of the retractor bulbi muscle, and the action of the levator muscle of the upper eyelid thereupon drew the edge of the lid inwards.

Becker considers that, in performing the entropion operation upon the horse, the piece of skin removed should be so large that a slight ectropion appears after the operation.—*Münchener Tier. Woch.*

CONGENITAL ATRESIA OF THE LACHRYMAL CANAL.

Hartog records (*Tydschr. v. Vecartsenijkunde*) the case of a colt a year and a half old. The animal had been bought six months before; and, from the moment of purchase, had shown symptoms of conjunctivitis which did not yield to the ordinary methods of treatment.

Upon examination, Hartog found the conjunctiva injected and engorged. The conjunctival secretion was muco-purulent; and the discharge had produced a large erosion of the skin over which it flowed. The cornea was normal, as were also the other component parts of the eye.

Examination of the nasal cavity corresponding to the affected eye showed that the orifice of the lachrymal canal was not present, and that, at the place where it should have been, the mucous membrane was slightly raised. The case was therefore one of congenital obstruction of the orifice of the lachrymal canal.

Hartog examined a piece of mucous membrane at the raised point; and this was immediately followed by the escape of a certain quantity of muco-purulent matter. The conjunctivitis was then treated with a collyrium of nitrate of silver. The orifice established by the excision of mucous membrane remained pervious; and the cure was soon complete.—(*Annales de Méd. Vét.*)

SUGAR IN THE TREATMENT OF WOUNDS.

The antiseptic action of sugar has long been known; and the treatment of wounds by it is also nothing new. Dr. G. Magnus, of Norburg, describes (*Münchener Mediz. Woch.*) his experiments and observations upon the latter question. In the first place, he bacteriologically examined commercial beet-sugar, and found that in no single instance could pathogenic bacteria be demonstrated in it. He then used beet-sugar without further preparation in the treatment of wounds, employing it in about 100 cases.

Magnus found that, in tuberculous processes, a distinct cleansing of the surfaces of the wound certainly appeared; but the specific process itself remained unaltered. Apart from tuberculosis, he considers the results of wound-treatment by sugar encouraging. The sugar acts as a disinfectant and antiseptic. It dissolves fibrin, and stimulates

secretion by vigorous osmotic processes, which are comparable to a rinsing out of the wound with serum from within outwards.

Speedy cleansing, deodourisation, healthy granulation, and rapid proliferation of epithelium result from this. Magnus therefore concludes that sugar is a safe, cheap, and for practical purposes sterile agent.—(*Berliner Tier. Woch.*)

THE TOXICITY OF BORIC ACID POWDER.

Charmoy has published (*Recueil d'Alfort*) an article upon this question. Having been struck by certain symptoms of poisoning he observed in dogs which had been treated with boric acid powder applied to wounds, he studied the action of the drug systematically. After detailing his observations, he states his conclusions as follows:

1. Boric acid powder, used as an external medicament upon the wounds of dogs, is toxic in a dose varying between $2\frac{1}{2}$ to 3 grammes (roughly about 38 to 46 grains) to every kilogramme (2.2lb.) of the animal's weight, provided the animal is in a satisfactory condition of health.

2. The toxicity of the drug is much higher in animals already affected with a chronic disease, especially nephritis or skin disease,

3. The symptoms of poisoning at first are weakness, difficulty in progression, and a slight acceleration of the grand functions of the body. These are followed by vomiting, diarrhoea, and fall of the temperature. Towards the end there is an absolute "muscular resolution," with sometimes the appearance of blood in the excrements and in the vomited material. Death takes place in coma and hypothermia.

4. Death seems to be due partly to the rapid evolution of an acute nephritis, and partly to nervo-muscular paralysis, the latter no doubt being caused by the inhibitory action of the boric acid upon the nerve centres. The author concludes, then, that boric acid is not an inoffensive substance the dose of which is unimportant, and that its use should not be generalised. He suggests that the drug might well be banished from canine therapeutics, and reserved for dressing the wounds of the large animals. Even in the latter it should always be remembered that boric acid has a debilitating and cachectising action, and a manifest tendency to alter the renal apparatus.—(*La Semaine Vét.*)

HÆMORRHAGE FROM THE VENA CAVA CAUSED BY AN EXOSTOSIS OF THE VERTEBRAL COLUMN.

Lagaillarde records (*Revue Vétérinaire*) the case of a mare which, after having leaped the bar in the riding school, galloped a few yards and then suddenly fell. She rose, staggered for the first steps after rising, and then regained her normal appearance.

The next day she was led at a trot with the object of ascertaining if lameness existed; and, at the end of the run, she was turned shortly. She immediately faltered, managed to travel a few yards further, and then collapsed. Four hours later, she died with all the signs of internal hæmorrhage.

The post-mortem examination was exceedingly interesting. The abdominal cavity was found filled with blood. The vena cava, which showed a voluminous thrombus, also presented a large rupture with jagged edges, the rupture being opposite to an exostosis of the vertebral column. The aorta was pushed from its normal position by exostoses of the bodies of the dorsal and lumbar vertebrae, and was therefore sinuous in its course.

The ankylosing osteitis had transformed the thoracic and lumbar regions of the spine into a rigid arc, by ossification of the cartilages and "soldering" of the vertebral bodies. The bodies of the vertebrae were deformed. A great number of them showed osseous formations either upon the lateral parts or upon the median crest. The last lumbar vertebra, upon the right part of its body, exactly opposite to the vena cava, showed a projecting exostosis which was triangular in shape and possessed cutting edges.

As the animal was an Army horse, it was possible to obtain her medical history. Her infirmity record was very small, comprising an incapacity of short duration on account of an exostosis on the internal aspect of the hock, a pharyngeal strangles, and an attack of horse-pox. The gross lesions of the vertebral column had never been suspected during life, only very slight symptoms having been seen which may be attributed to them. At the most these symptoms had been confined to slight resistance to being mounted, and a certain amount of stiffness during the first steps of progression.

This mare resembled many other osteitic patients in having previously been affected with microbial diseases. There may perhaps have been a relation of cause and effect between the microbial diseases and the essentially chronic osteitic process.—*Annales de Méd. Vét.*)

Neither the age of the mare, nor the time which had elapsed since the previous attacks of disease, is stated.—*Transl.*]

W. R. C.

ECONOMIC FACTORS IN CATTLE FEEDING. — II, ARGENTINA AS A FACTOR IN INTERNATIONAL BEEF TRADE.—H. W. MUMFORD (*Illinois Sta. Circ.* 164, pp. 3-18, figs. 10).

This bulletin discusses the present and the possible future of the beef industry in Argentina, which is now supplying European markets with beef formerly obtained from the United States.

The five provinces of Buenos Aires, Corrientes, Entre Rios, Santa Fe, and Cordoba, known as the pampas grass region, contain over 80 per cent. of the cattle in Argentina. Approximately 5,000,000 cattle were slaughtered in 1911, of which about 1,000,000 were shipped abroad as dressed beef, and a considerable proportion of the remainder was prepared for export in other forms. The exports of beef have increased from 64,000,000 lb. in 1885, to 580,000,000 lb. in 1910. Argentine grass-fed beef sells on the English market within from two to five cents per pound of corn-fed beef from the United States.

Expansion of the cattle raising industry in Argentina has ceased, however, largely because grain growing has proved more profitable, and as the cost of beef production will increase with increased cost of labour and land, it is thought that on the whole the business of raising beef cattle in the United States will not be permanently menaced by Argentine competition. A bibliography is appended.

RESEARCHES ON EPIZOOTIC LYMPHANGITIS IN ALGERIA.—J. BRIDRE, L. NEGRE, G. TROUETTE (*Ann. Inst. Pasteur*, 26 (1912), No. 9, pp. 701-726, pl. 1, fig. 1).

Clinical observations and experimental investigations show that the epizootic lymphangitis is transmissible by direct inoculation, and that the intervention of blood-sucking insects is not necessary. A study of new lesions shows that the cryptococcus of Rivolta is not a parasite of the leucocytes. Its morphology and mode of reproduction would indicate it to be of the nature of a blastomycete as do complement fixation tests of the cryptococcus and certain yeasts. The authors find that salvarsan can be used to advantage in treatment of the disease, a 1-grm. dose giving better results than larger doses.

THE WIDTH OF THE JAW OF CATTLE IN RELATION TO MILK PRODUCTION AND THE WEIGHT OF THE HEART AND LUNGS.—G. KORRENG. (*Jahrb. Wiss. u. Prakt. Tierzucht*, 7 (1912), pp. 132-142).

As a result of measurements of calves, bulls and cows, it is concluded that a narrow jaw in cows is associated with a high milk production, and a wide jaw with heavy heart and lungs. The weight of the heart was relatively larger in males than in females, and that of the lungs larger in females than in males.

F. E. P.

ABOUT CONGRESSES.

"There are a good many scientific workers who do not hesitate to declare their belief that Congresses of all sorts are a waste of time and money. They say that nothing new is disclosed—or very seldom, at any rate—and that the 'windbags' and self-advertisers use such meetings as opportunities for taking unto themselves credit which should go to the genuine research worker, whose brains are picked by men merely out for popular applause. There is a certain element of truth in this generalisation; but to the recent International Congress in London it most decidedly does not apply. Not only from a popular point of view, but also from that of strict medical science, the right men were chosen for the big occasions; and the tremendous public interest which has been aroused merely reflects the excellent organisation of the Congress and the discretion of the Committee which took it in hand."

[May not the public press be credited with the greater amount of the "public interest" exhibited—at any rate on the popular side?]

"It would be idle, however, to pretend that every speaker in every section contributed usefully to the proceedings; or that the advertising pseudo-scientist was completely suppressed. But this not alter the fact that the opportunities of this type of medical man were firmly, yet tactfully, curtailed as much as possible; and that in general an extraordinarily high level of scientific medicine was maintained. Again, it is true that very few new facts emerged, and that the great majority of the 'reporters' of the twenty-six sections and sub-sections merely recapitulated the researches and advances of the last few years. But this very repetition, irritating as it may be to the specialist who is fully up-to-date in his own subject and mainly anxious for fresh worlds to be conquered, really constitutes a valuable feature of an International Congress. For by this means the general practitioner, and the specialist, too, have a chance of taking stock of progress, of interchanging views with men of other nationalities, and of surveying the field preparatory to fresh campaigns against disease. Taking a broad view . . . the Congress was an unprecedented success, not only from the point of view of the doctors, both scientifically and socially, but was equally momentous from that of the general community, whose members . . . saw at least enough to interest them profoundly as onlookers with a personal stake in the issues."

So says a contemporary, *The Hospital*. It was not a long step from these remarks to the thought of our Congress of next year, with its similarities and its differences. Perhaps the differences appealed to me more strongly. The Medical Register carried, a year or two ago, nearly 40,000 names. *The British Medical Journal* advertises its issue of Sept. 6th as 30,000 copies. Doubtless a good proportion of these totals apply to men practising out of Britain; the proportion in the veterinary profession is about one-eighth. Assuming that one-sixth of their total are unavailable, there remains over 30,000. The estimated number of guests to the Congress was put at 8000, so that the proportion of guests is just about one-fourth. Now our figures, deducting one-eighth, are roughly 2980, and our guests are estimated at 1200—a proportion not greatly less than one-half.

The fact that the British Government is far less liberal than continental governments towards the profession needs no advertisement. The deduction is inevitable.

Looking now to the popular estimation of the two professions, we may, perhaps, be relatively as well treated by the public press, which did so much for the recent Congress; but consider the divergence of interests. Every man and woman in the British Isles is interested, directly or indirectly, in the practice of medicine. Those who are happy enough not to have interviewed a doctor in their adult life, have wives, children, relatives, friends, some of whom are inevitably less fortunate. What is our case? It is unthinkable that the medical professional could lose in a few years the proportion of patients that were wiped off our books by the reduction of the horse as a tractor. True we have

"breed" animals left to us, and the number of dogs, cats, parrots, and canaries for which our clients have some personal feeling are not diminishing; and there is a larger proportion of the agricultural community who acknowledge the value of our services. But, accepting all these—and the small-holder—what proportion of the whole community acknowledges our services even in Public Health measures, or cares a "tinker's anathema" for us or our work?

Turning to the social side, I am sending a list of entertainments as given in *The Lancet*. They—the medicos—like ourselves, have little to thank the State for in that way; but consider the assistance they received on all hands.

"The council and staff of the London (Royal Free Hospital) School of Medicine for Women entertained at the medical school, Hunter Street, Brunswick Square, a large party of foreign and colonial delegates attending the International Medical Congress at luncheon on August 7th. . . . The medical school laboratories were open to visitors, who were also shown over the Royal Free Hospital and the New Hospital for Women."

"On Thursday, August 7th, Sir Alfred Pearce Gould, Dean of the Faculty of Medicine of the University of London, and Lady Pearce Gould gave a garden party at the College, Regent's Park, at which a very large number of the members of the Congress were present."

"The dinner given by the Society of Apothecaries of London on Thursday, August 7th, fully sustained the world-wide reputation of the City Companies for excellence in the science of hospitality and in the artistry of dining. The guests were received by the Master, Mr. W. Bramley Taylor, and the Wardens, Mr. Martindale Ward and Mr. Meredith Townsend."

"On Thursday evening, August 7th, the President and Council of the Royal College of Surgeons of England entertained a large company at a soirée in the College. The guests were received by the President, Sir Rickman J. Godlee, and the Vice-Presidents, Mr. G. H. Makins and Sir Frederic Eve, in the Inner Hall. In the Conservator's Office an interesting collection of microscopical preparations from 1780 to 1812 was on view, and in Rooms VII. and VIII. of the Museum there was an exhibition of historical and anthropological specimens, while Hunterian relics and other objects of much interest were shown in the Council Room."

"The conversazione at the Royal Army Medical College, Grosvenor Road, S.W., on Thursday, August 7th, was a brilliant function, attended during the course of the evening by some 800 people. Surgeon-General Sir Lancelot Gubbins, Director-General, A.M.S., and Lady Gubbins received the guests, who, after partaking of refreshments, were permitted to thoroughly inspect the College, where many striking exhibits were on view, comprising service rations of various armies, with demonstrations of the damage by insects to which they are subject, demonstrations of X ray and high-frequency electricity, methods of water purification and food analysis, clothing and equipment, demonstrations of various tropical diseases and microscopical specimens, field medical and surgical equipment, and so forth. A feature that attracted considerable attention was a cinematograph display of trypanosomes, amoebæ, bacteria, and spirochætæ."

"On Friday evening, August 8th, the Corporation of London gave a magnificent conversazione at the Guildhall to welcome the members of the Congress. The entertainment, which was worthy of the City's reputation for hospitality, had been organised on a very large scale by a special reception committee of the Corporation under the chairmanship of Mr. H. H. Wells. The Lord Mayor, the Right Hon. Sir David Burnett, accompanied by the Sheriffs of the City of London, received the guests in the Guildhall. The spectacle in the Library, Art Gallery, Council Chamber,

and Guildhall was a very brilliant one. Concerts and entertainments were given in the various rooms open for the reception, and there was dancing from 9 o'clock in the Library. In the Guildhall a selection of the Corporation plate from the Mansion House was displayed, and the museum and collection of ancient clocks and watches belonging to the Clockmakers' Company were also open for inspection. An additional delight for those to whom the City's treasures are unfamiliar was the exhibition of the ancient charters granted to the City of London by William I., Henry II., Richard I., and John, and the collection of manuscripts, medals, coins, and badges dating from the thirteenth century."

"A special feature of the entertainments of the Congress was the garden party at Windsor Castle at the invitation of the King on Saturday, August 9th. The invitations were perforce limited to 2000, but it was found that the applicants would very greatly exceed those for whom it would be possible to make adequate provision. Some half-dozen special trains, at intervals of a few minutes, was run between 2 and 3 p.m. from the Great Western Station at Paddington direct to Windsor for a return fare of 2s. On arrival at the Castle the King's guests were received at the grand entrance by the Lord Chamberlain on behalf of His Majesty, the Comptroller of the Household, the Deputy Master of the Household, the Surveyor of the King's Pictures (Mr. Lionel Cust), the Keeper of the King's Armoury (Mr. Guy Laking), and the Inspector of the Palace (Mr. G. E. Miles). . . . Passing on to the East Lawn, this magnificent pleasure attracted universal admiration. In large marquees an elaborate tea, with champagne, ices, and abundant delicacies, was provided, the tables being decorated with flowers from the Royal gardens. The spectacle was one of extraordinary vivacity, presenting the most democratic assemblage that has ever occupied that lawn."

"A delightfully intimate and admirably managed excursion was the river party on Sunday, August 10th, on the invitation of the President (Dr. Reginald Morton), officers, and members of the Section of Electro-therapeutics of the Royal Society of Medicine. The guests to the number of 100 embarked on the launch "Royalty" at Westminster Pier at 10.30 a.m., and proceeded up the river, calling at Richmond to take on a few who had failed to catch the boat at Westminster. . . . Sir James Mackenzie-Davidson, President of the Section of Radiology of the Congress, was present. The day was fine, and the genial care of Dr. Reginald Morton and Mr. Archibald Reid, the chief organising spirits, charmingly seconded by Mrs. Morton and Mrs. Reid, for the comfort of their guests was greatly appreciated by all. An excellent luncheon was served. On the homeward journey afternoon tea was served. The party reached Westminster pier about 7.30."

"On Monday morning, August 11th, a deputation of the French members of Congress were met at the Royal College of Surgeons of England by the President, Sir Rickman Godlee, when they placed a wreath beneath the bust of Lister, newly executed by Sir Thomas Brock. . . . They afterwards looked at a collection of Lister's manuscripts, drawings, and instruments, which had been prepared for their inspection."

"At the session on Monday, August 11th, of the Section of Tropical Medicine and Hygiene, Professor Blanchard presented a large gold medallion to Sir Patrick Manson, as an acknowledgment from France of the value of his work in the prevention of malaria. The medallion bears on it a portrait of Sir Patrick Manson, and is the work of M. J. Richet."

"Sir Thomas Barlow, as President of the Congress, gave a dinner on Monday night, August 11th, at the Savoy Hotel, at which some 200 foreign and British members of the Congress and distinguished guests were entertained. Among those, in addition to the delegates from foreign Governments and the presidents of the different sections, and the officers of the Congress, may be mentioned the Archbishop of Canterbury, the Cardinal Archbishop of Westminster, the Dean of St. Paul's, the American Ambassador, the Lord Mayor of London, Lord Haldane, Mr. John Burns,

Mr. McKenna, Mr. Sydney Buxton, Sir Archibald Geikie, Sir George Reid, Professor Ehrlich, Professor Harvey Cushing, Professor Chauffard, Lord Strathcona, Professor W. Bateson, Sir Rickman Godlee, Sir T. Clifford Allbutt, and Sir William Osler. The dinner was quite informal, and there was no toast list. . . . During dinner the Westminster Singers delighted the audience with their admirable rendering of old British songs."

"At the *Conversazione* given by Lord and Lady Strathcona to the members of the Congress on August 11th, the night was fine and the Botanical Gardens glowed with myriads of fairy lamps, outlining shrubberies and trees and flower beds. . . . The Royal Artillery Band and the Prince's Red Band added the charm of music; pipers from the Scots Guards played and danced; while the Folk Song Quartet rendered a selection of Ballads. Lord and Lady Strathcona themselves received their guests, who approached, for lack of space, in a sinuous queue. Approximately 5000 persons were present. It was a charming *fête*."

"Under the banner of the Æsculapius Lodge, No. 2410, and supported by the Rahere, the Cavendish, the Sancta Maria, the Middlesex Hospital, the London Hospital, La Chère Reine, the King's College Hospital, and the Lanesborough Lodges, a meeting of medical Freemasons in connexion with the International Congress of Medicine took place at Freemasons' Hall on Monday afternoon, when nearly 300 members of the craft were present, including a large number of foreign and colonial brethren. A lodge was opened by the W.M. (Dr. A. P. Beddard) and the officers of the Æsculapius Lodge, and later the Pro-Grand Master of England Lord Amptill, occupied the chair. Mr. Edmund Owen, P.G.D., and Mr. Ernest Clarke, P.G.D., acting as S.W. and J.W. respectively. . . . Tea and coffee were served from 3.30 till 4.30, and the arrangements for the meeting were admirably organised by Dr. J. R. Probyn-Williams, P.G.D."

We, a young profession, have have had to make our way. Ignored by the State almost entirely up to 1866, and not much better treated in the following years, we have had to stand "on our own." No reasonable man can deny that we have stood up to what was in front of us, and we are not ashamed of our record. But that has not surrounded us with a host of wealthy friends nor attracted the attention of Royalty. We are "on our own" still. We have friends—good friends—but they are few. We have men amongst us who can, and have, stood forward in this matter of the International Congress: but has it not been left to too few? At a meeting of one of our local societies a few weeks back, the Secretary reported that 40 of the members to whom he had applied *had failed to reply at all*. It has to be admitted that there are amongst us members who, at most, could only afford a few shillings, but these do not form a numerous section, and to each and every man who has not subscribed I would say as they say in Devonshire, "Du zummut, du gude ef you can, du zummut!"

SOUTH COUNTRY.

MIDLAND COUNTIES VETERINARY MEDICAL ASSOCIATION.

The quarterly meeting was held at the Grand Hotel, Birmingham, on Wednesday, August 20th, the President, Mr. J. Martin, of Wellington, occupying the chair. There were also present Messrs. Brennan DeVine, L. C. Tipper, S. Woodward, Birmingham; J. J. Burchall, Barrow-on-Soar; W. H. Brooke, Handsworth; H. L. Pemberton, Bridgnorth; W. S. Carlless, Worcester; R. Over, A. Over, Rugby; R. C. Trigger, Newcastle-under-Lyne; H. Collett, West Bromwich; R. Murray, Ruge-

ley; Thompson, Stafford; D. Forwell, Towcester; T. Chambers, Dudley; L. W. Heelis, Solihull; W. E. Ison, Atherstone; W. C. Clifford, Shifnall; T. Whyte, Tenbury; T. Slipper, Sutton Coldfield; W. Grasby, Davenry; and the Hon. Sec., Mr. H. J. Dawes, of West Bromwich.

Two visitors were welcomed, namely, Messrs. W. D. Connachie and W. White, Birmingham.

Apologies for unavoidable absence were announced from Profs. Hobday and Dewar, and Messrs. C. E. Dayus, Parsons, Ringer, W. H. Brown (Northampton), J. Martin, jun., F. L. Gooch, T. L. Hobson, J. P. Carless, W. T. Wilson, T. J. Brain, R. Clunas, T. Bainbridge, R. McGregor, R. Cockburn, F. H. Gibbings, J. W. Coe, A. B. Forsyth, E. Woodcock, J. Duckworth, T. J. Prince, R. Hughes, F. W. Barling, John Blakeway, H. S. Reynolds, H. Yeomans, and others.

The Hon. Sec. read the minutes of the previous meeting, which were confirmed.

New Members.—The following gentlemen, duly nominated at the previous meeting, were now elected members of the Association:

Prof. W. T. WILSON, Harper Adams College, Newport, Salop, proposed by Mr. Pemberton, seconded by Mr. Clifford.

Mr. R. CLUNAS, Hodnet, Salop, proposed by the Hon. Sec., and seconded by Mr. Carless; and

Mr. J. MARTIN, JUN., Newport, Salop, proposed by Mr. Clifford, and seconded by Mr. Pemberton.

Mr. EDWIN HALL, of Wellington, was nominated by the President, and his name will be submitted for election at the next meeting.

Resignations.—The Hon. Sec. reported that Mr. F. J. Taylor, formerly of Moseley, and now of London, had tendered his resignation on account of his leaving the district. They were all sorry, he was sure, to lose Mr. Taylor, who had served the office of President of the Association, and had always taken the keenest interest in its welfare. He moved that it be accepted with regret. This was seconded by the President, who said they could ill afford to lose such enterprising members. The resolution was carried.

The Hon. Sec. also announced the resignation of Mr. James Blakeway, and this was also accepted with regret.

RECOMMENDATIONS BY THE COUNCIL.

The Hon. Sec. reported that a meeting of the Council of the Association had been held just prior to this meeting, when there were present Mr. Martin in the chair, Messrs. Carless, Grasby, Pemberton, DeVine, Ison, Trigger, R. Over, Brooke, Burchnall, and the Hon. Sec. The following recommendations to the general meeting were made:

1. That Northampton be the next place of meeting.
2. That Mr. Noel Pillers, of Liverpool, be invited to read his promised paper on "Mange."
3. That at the annual meeting at Birmingham next February, Prof. Reynolds, of the Royal Veterinary College, be requested to read a paper with demonstrations on "Canine Surgery," Mr. Grasby kindly undertaking to make the necessary arrangements; and
4. That the affiliation fee of 1s. per member due from this Association to the National Veterinary Medical Association be paid forthwith.

The Hon. Sec. reported to the Council that he had received further promises towards the fund in connection with the forthcoming visit of the International Veterinary Congress to London. He regretted to say that 40 members had failed to reply to his circular one way or the other, which he considered scarcely satisfactory.

On the motion of Mr. R. Over, seconded by Mr. Tipper, the above report was accepted, and the recommendations contained therein were agreed to.

THE INTERNATIONAL CONGRESS.

Arising out of the report of the Council, the Hon. Sec. referred to the question of the Guarantee Fund to meet the expenses of entertaining the International Veterinary Congress in London next year. In other countries the Government made a handsome grant towards the expenses, and even entertained the delegates on a generous scale, but they would not get that in England, and it was left to the profession to see that their distinguished guests were properly treated. When they remembered how well the medical profession entertained the delegates to the International Medical Congress only last week, he thought it would not be creditable to the veterinary profession if visitors from abroad were not treated as well as English delegates had been at Congresses elsewhere. There were members who had not yet replied to his circular who he thought would give something, and he made one last appeal to them to associate themselves with the present movement.

Some discussion took place on the best means of reaching those members who have not already subscribed, and the Hon. Sec. said that Sir Stewart Stockman had asked him for a list of all who had not subscribed, with the intention of making a personal appeal to them for assistance before the Fund closed.

THE ROYAL SANITARY INSTITUTE CONGRESS.

The President, who represented the Association at the Congress of the Royal Sanitary Institute at Exeter in July last, reported briefly upon it. He said they must regard with steadily increasing satisfaction the importance which the public were beginning to attach to the veterinary profession in matters pertaining to the public health. He attended the discussions on five papers, all of which were of interest to the veterinary surgeon. He enjoyed his experience very much indeed, and he thanked the Association for giving him the opportunity of attending the Congress.

On the motion of Mr. Trigger, seconded by Mr. Ison, a hearty vote of thanks to the President for representing the Association on the occasion in question.

A COMPLIMENT TO THE HON. SEC.

Mr. TRIGGER said they owed so much to Mr. Dawes, who had been hon. secretary of the Association for twenty years or more, that when they had a chance of paying him a small compliment they ought not to let it pass. As most of them knew, his son, Mr. Howard Dawes, had just come through his college course with flying colours, and in practically every branch of veterinary study had carried everything before him. Mr. Dawes, senr., must naturally be very proud of such a son, and he moved that the congratulations of the Association be tendered to Mr. and Mrs. Dawes upon this happy result.

Mr. Ison said that as one who had been privileged to examine Mr. Dawes, junr., he would like to second the resolution. Mr. Howard Dawes was looked upon by his professors as one of the most brilliant students who had passed through the college for many years.

The resolution was carried by acclamation, and Mr. Dawes, in acknowledgment, said he very much appreciated the recognition of his son's success which the Association had made. He hoped his son would become a member of the Association, and that he would take as much interest in its affairs as he himself had done.

SPECIMENS.

Mr. TRIGGER, on behalf of Mr. Coe, who was unable to attend, produced the larynx of a horse which had been slaughtered within the past day or two. The larynx was entirely flat, and it was believed to be the result of an accident, the animal having at one time run into a gate and injured itself.

Several members criticised this explanation of the condition of the larynx, and held the view that it was congenital and not due to an accident at all. Mr. Trigger said that was his own opinion.

Mr. R. OVER exhibited a case of a verminous aneurism in the mesenteric artery. The animal was a thoroughbred foal, which was taken bad a few days ago. It looked a bit dull at first, and was lame in the off-fore leg. The lameness then disappeared from the fore leg and passed into the off-hind leg. The post-mortem showed a certain amount of peritonitis, and there were spots on the bowel with abscesses forming. The kidneys were very enlarged and contained minute abscesses.

Mr. PEMBERTON showed a number of calculi of abnormal size and shape which were removed from a horse by the hand, with good results.

THE TUBERCULOSIS ORDER, 1913.

By BRENNAN DEVINE, F.R.C.V.S., D.V.S.M.,
City Veterinary Dept., Birmingham.

The Tuberculosis Order of 1913 has been so much discussed by the veterinary profession during the past three months that it is difficult to introduce anything new about it, or to bring forward any remarks for discussion which you have not already thoroughly thrashed out. The Order, as you are all aware, came into force on May 1st last. Under this Order clinical tuberculosis of all bovines is compulsorily notifiable. The Order was designed to organise a method of eradication of the more badly infected tuberculous cattle and thereby remove the worst centres of infection from our herds, as well as to reduce the chances of infection to human beings through the milk and meat.

Notification. As regards notification of the disease, the onus should necessarily fall on the owner of the animal, but if a veterinary surgeon meets with a suspected case of tuberculosis in a bovine in his daily practice or otherwise, it is his duty to report it to the local authority. Under the Notification of Diseases Order, the veterinary surgeon is entitled to a fee of 2/6 for each outbreak reported; of course, if the local authorities wish they may increase this fee. I feel sure none of us object to reporting cases of any of the scheduled diseases—every veterinary surgeon nowadays recognises it as his duty to do everything possible to arrest and prevent disease. This may seem a cut-throat policy, and against one's own interests, as eventually all disease may be cleared out and there may be little work left for the veterinary surgeon; notably, Pleuro-pneumonia, Foot-and-mouth disease, Glanders, and Rabies, have virtually been extirpated. But the great tendency, in fact I may say the bounden duty of the members of our profession at the present day, is to concentrate one's aim on prophylactic measures and to carry them out where possible. In addition to reporting suspected cases to the local authority, the veterinary surgeon should also point out to the owner the many advantages to be derived by ridding his herd of those bad centres of infection—the visible clinical cases, and thereby dispensing with further inspection. The veterinary surgeon can do much real good towards eradicating the disease by instructing the owners in the risks they run by keeping infected animals, or by introducing new animals into their herds without having them previously tested. I know of several instances of herds which I have tested in Birmingham and district where but one apparently affected animal has infected several in the same shed during the comparatively short period of six months. Although we cannot hope to clear tuberculosis from our sheds under the present Order, yet we all recognise it is a step in the right direction, and if local

authorities efficiently carry out the provisions of this Order the percentage of affected animals must necessarily be considerably reduced, and this, of course, will reduce the risk of infection to human beings.

It would perhaps be premature for me to suggest here that all milking herds should be tested with tuberculin, and that all the re-acting cows should be kept barren and fattened off. All of us who have carried out testing with a view to obtaining a tubercle-free herd look on the present Order as only partial and temporary. We have all seen apparently healthy, good-looking, well nourished cows react to the tuberculin test, and if allowed to continue in a herd they affect many others within a short period. At the same time I think it is not unlikely that in the near future some system of testing the milking herds will be taken up by the State, and until some such system is carried out we cannot hope to exterminate tuberculosis from our herds.

Inspection and Examination. The section of the Order dealing with inspection and examination of animals is, from the point of view of the veterinary surgeon, a very important one. The local authority is there instructed to cause a veterinary examination to be made of all suspected cases reported. Though this Order applies to the whole country alike, as other Orders under the Contagious Diseases (Animals) Act, I am inclined to believe that the necessity for its application has not been properly appreciated alike by all the public bodies concerned, or rather, that its meaning has not been equally interpreted by them. If public bodies are known to be lax in the carrying out of the provisions of the Order (and I have reason to believe there are many), or if they evade their duty in any way, the matter should be reported to the Board of Agriculture with a view to having it thoroughly investigated.

Under the same section, the veterinary surgeon is empowered to take samples of milk and of faeces, urine, or any other abnormal discharge, for purposes of diagnosis. If tuberculosis of the udder is suspected a sample of milk will naturally be taken for microscopical examination. Tuberculosis of the udder is rarely a primary disease; it is usually secondary to lesions in the thoracic or abdominal cavity, the disease extending to the udder usually through the lymphatics. The affected quarter at first usually shows a swelling without heat or pain. This gradually becomes hard and spreads over the whole quarter. The hardening and enlarging of the quarter is unaccompanied by any inflammatory symptoms. The milk at first remains normal in appearance, but later becomes thin and watery looking. As a rule it is one of the hind quarters that is first attacked and the disease may affect later all the four quarters. The induration usually begins high up, deeply situated in the depth of the quarter. When taking samples from suspected quarters the udder should be cleaned, and the milk should be collected in a sterilised bottle direct from the teat. The milk is taken from the suspected quarter only, and if more than one quarter is suspected separate samples should be taken from each quarter. I have been in the habit of taking stripping from the udder, and I believe one is more likely to find the tubercle bacilli in the last milk drawn than in the fore milk, though I have met with cases in which the fore, middle, and last milk was found to contain tubercle bacilli. The milk should be examined as soon as possible after collection; if the milk is to be kept for any length of time before being examined it should, immediately it is extracted from the cow, be cooled down to 48 degrees F. The quantity of milk taken should be, where possible, at least 4 ounces. The milk is then microscopically examined, as follows; it is first centrifugalised. The time taken in this process depends on the power of the centrifugal machine, but with a good powerful machine the milk should be kept

on at least 20 minutes. After centrifugalising the milk, cover glass preparations are made from the sediment and cream. It may be necessary to make several examinations from the same milk, as in the early stages of the disease the bacilli are sparse in number. After the films are made on the cover glasses and fixed by heat they are stained by the Ziehl-Neelson method, counter stained methylene blue and examined under $\frac{1}{2}$ oil immersion lens. As regards the microscopical examination of the faeces as an aid to the diagnosis of tuberculosis in cattle, I do not consider it of much value. Granted one finds acid-fast bacilli on microscopical examination of faeces of cattle, we are no further forward in our diagnosis. The acid-fast bacilli detected may, or may not, be tubercle bacilli, but one cannot give a positive opinion, because so many other acid-fast bacilli are likely to be met with in the faeces of cattle, such as Johne's bacillus, Timothy grass bacillus, etc. As far as I can see, the microscopical examination of faeces alone for the purposes of diagnosis of tuberculosis in cattle has no practical value. Urine is another sample mentioned in this section which may be taken for diagnosis. The examination of the urine is carried out on the same lines as the milk, the urine being previously removed with a sterilised catheter. Whenever you get tuberculosis of the urinary system—of the kidneys, ureter, bladder, etc., it is generally found associated with a generalised tuberculosis, and rarely seen separate. The words "Any abnormal discharge" in the Order give one power to stake a specimen from any of the natural orifices. As far as I am aware the most valuable discharge for diagnostic purposes is one derived from the respiratory apparatus. Such a discharge may be collected in a swab from the pharynx, especially if the animal is made to run some distance to cause coughing. I understand there is an instrument used in Germany for penetrating the trachea and taking specimens of mucus on swabs direct from the bronchi. In advanced cases of pulmonary tuberculosis in cattle the mucus removed from the lining of the bronchi is particularly rich in tubercle bacilli. In examining specimens of mucus, films on cover glasses are used fixed by heat and stained in the same way as the milk sediment. In examining human sputum for phthisical cases the percentage of successful results has been greatly increased by the use of antiformin, which dissolves the animal matter other than the acid-fast bacilli. The method employed is as follows: The sputum is placed in a test tube and a five per cent. solution of antiformin is added. This is then shaken up and allowed to stand half an hour and then centrifugalised; the top fluid is poured off and the top layer of the sediment is examined microscopically. I understand the same method is now successfully employed in the microscopical examination of milk samples.

Under the same section of the Order, provided the Inspector has the written consent of the owner, the animal may be tested with tuberculin. The tuberculin test is the only applicable and certain test we have to detect cases of tuberculosis where no positive signs of the disease are apparent. With the tuberculin test we can state definitely within 24 hours whether the animal is affected with tuberculosis or not. The use of tuberculin is harmless, but one must be careful in applying the test to avoid any errors in diagnosis. In most cases when the situation is explained to the owner, there is seldom any difficulty in getting him to acquiesce in having the animal tested. Tuberculin may be used for testing animals in various ways; the ophthalmic, endermic, intradermic, or subcutaneous method may be carried out. I have tried all four systems, the last named being the commonest form, and the one with which I have been most successful. I consider the subcutaneous method of testing with tuberculin thoroughly

reliable, and when properly carried out leaves little room for doubt. In one herd of 36 cows which I tested in December, 1909, the result showed 24 cows were affected and 12 were free. We had here in what was considered a beautiful herd of dairy cows 66 per cent. of tuberculous animals. The cows looked so well that one could not help feeling a little doubtful about the reliability of the test; however, the reactors were separated from the free, and all the affected were gradually cleared out of the herd by being fattened and slaughtered. When ready for slaughter they were killed on the place, and I had an opportunity of making a post-mortem examination on every animal. The result was that the tuberculin test was verified in every case. In the majority of cases tuberculosis was found in the lungs, and in a few in the pharyngeal glands only. I know there are some practitioners who do not place the reliance on the tuberculin test that it deserves. They say a badly affected animal may not react, and that a non-tuberculous animal may. I would advise those people not to use tuberculin out of a bottle which was opened months ago and has since been standing on a sunny shelf in the surgery. The tuberculin should be used fresh and out of a newly opened bottle, the dose injected should be rather over than under, and if there is a suspicion that a cow has recently been tested the temperature should be taken from the second to the 21st hour with a tested thermometer and by a reliable person—not the farmer or his man. By using care in the application of the tuberculin test we can reduce to a minimum the doubtful and erroneous conclusions.

I should not like to pass this part over without saying a word as to the control of the sale of tuberculin. There is no doubt that the broadcast way in which tuberculin is sold by many firms in this country has a good deal to do with the uncertain results obtained. It has its effect on high priced show cattle and on those exported, as they are often injected previously by the owner, and that the manufacture and sale of tuberculin should be State controlled is a necessity becoming more apparent each year.

Post-mortem Examination of Slaughtered Animals.—Under this section of the Order the veterinary surgeon is to make a post-mortem examination of any animal slaughtered under the Order. In the great majority of cases a definite diagnosis can be arrived at without having to make a microscopical examination of the affected parts. The more common seats of tuberculous lesions in affected cattle are in the pharyngeal, mediastinal, and lymphatic glands. The naked eye appearances are so well known that it is not necessary to dwell on them here; suffice it to say that in the early stages you find necrosis, later followed by caseation. The principal lymphatic glands to examine on making a post-mortem under this Order are as follows: Pharyngeal, submaxillary, mesenteric, supramammary, hepatic, renal, cervical, pectoral, suprasternal, suprascapular, iliac, pelvic, and precural. In doubtful cases, when one is not quite sure that the lesions are tuberculous, sections should be made of the suspected parts and examined microscopically.

Cleansing and Disinfection.—Section 12 of this Order is one that has been overlooked a good deal. Under the Board of Agriculture Diseases of Animals (Disinfection) Order of 1906, the following is laid down:

The place or thing or part thereof required to be disinfected shall be thoroughly coated or washed with

(a) A one per cent. (minimum) solution of chloride of lime containing not less than 30 per cent. of available chlorine; or

(b) A five per cent. (minimum) solution of carbolic acid (containing not less than 95 per cent. of actual carbolic acid) followed by a thorough sprinkling of lime wash; or

(c) A disinfectant equal in disinfective efficiency to the above mentioned solution of carbolic acid, followed by a thorough sprinkling with limewash.

In carrying out disinfection following the removal of infected animals, the first and most essential part is to have the place thoroughly cleansed; plenty of water, soda, soap, and brushing, and follow this up with the application of a fluid disinfectant equal in germicidal power to any of the above. A 10 per cent. solution of sulphate of copper is a cheap effective form of disinfection for outbuildings, but it has the disadvantage of corroding metal parts. A 10 per cent. solution of carbolic acid followed by limewash is as convenient a method as any. Under Section 44 of this Order there is an extension of Sections 19, 20, 43, and 44 of the Diseases of Animals Act of 1894. This Section grants to inspectors many powers over those cattle owners who, by hiding stock or otherwise, attempt to evade the law. It is hoped that the local authorities all over the country will effectively carry out the provisions of this Order, and will not hesitate to take advantage of its many facilities of ridding their districts of all those cases of tuberculosis which are affected by this Order.

At the close of the paper, Mr. DeVine submitted specimens under the microscope of tubercle bacilli from milk and of the bacilli of Johne's disease, for which the tubercle bacilli is likely to be mistaken.

DISCUSSION.

Mr. TRIGGER said he had listened to the paper with greater pleasure than he had anticipated, because although he was familiar with the Order, Mr. DeVine had presented the subject in a most attractive form. He thought they must all agree, though he did not take a rosy view of it, that in attacking wasters they were doing a big work in the right direction. The essayist rather staggered him when he said that one apparently healthy cow was proved to have disseminated the disease among a herd in the short space of six months. He did not think local authorities, at least at this stage, wanted to embark on anything very heroic. County Councils had no desire to go beyond absolute diseased animals, and those in an advanced stage of the disease. He hoped that by slaughtering these wasters they would do good, but he did not think it was quite sufficient. Only the previous day he saw a cow in the market, which he ordered out, and she was afterwards sold for £2. She had tuberculous udder, and was in the last stage of the disease. If knackers would give farmers £2 or more, it was no use veterinary surgeons valuing them at 30s., as was generally done. They must value cows a little more highly. They had to give the value of a cow supposing she was tuberculous, and supposing she was not tuberculous, and that was often rather a difficult matter. If the cow was a waster, the veterinary surgeon may lose nothing by sending her to the knacker, but if she turns out not to have been diseased, and he had previously valued her if free from disease at, say £20, he soon got into hot water with the County Council for having her slaughtered. He thought they attached too much importance to the contagious nature of the disease and overlooked other causes of the spread of the disease, he did not mean heredity, but the hygienic and dietetic conditions under which the animal lived. He mentioned a case in which water from a colliery was run through land where cattle drank it. The cattle, which were all right before, became affected, and when the water was diverted from this land the owner gradually got his herd better again. Prof. McCall once told him of a similar case, suggesting that the spread of the disease was caused by the cattle drinking contaminated water. He always found on farms near collieries a lot of what were called wasters.

He did not know what was to be done in the matter of auctions, for as far as he knew very few local authorities had any inspectors of auctions. He took the law into his own hands in the case he had just referred to, but he was met by the statement that the same animal could be taken into other markets and not get stopped.

Mr. DEVINE: Veterinary surgeons should report the matter to the Board of Agriculture when local authorities fail in their duty.

Mr. TRIGGER added that he hoped this Order was the beginning of a new era. It was certainly letting the public know that something was being done in the eradication of a dreadful scourge, and he agreed with Mr. DeVine that in a few years the State would insist on all animals supplying milk to the large towns being tested with tuberculin.

Mr. TIPPER said he was a member of the Executive Committee of an important County Council, and he would like to say in reference to Mr. DeVine's criticism on local authorities for not acting as expeditiously and as energetically as they might, that Mr. DeVine had overlooked the fact that the Board of Agriculture themselves had advised local authorities not to put too much energy into the Order in its early days, and he thought quite rightly too. There were difficulties which they all realised. One result he had went to show that the pessimism that existed about tuberculosis among stock was a little too pronounced, because the returns so far given as to animals slaughtered under the Order were not very considerable. But the point he wanted to bring before the meeting was this: they were aware that the question of compensation had been delayed in this country for years because a basis of compensation could not be arranged. There was the demand on the part of the owners for compensation, and the refusal on the part of the Government to pay compensation, and there had been a sort of half-way arrangement which enabled this Order to be put into operation. It was the absence of a proper basis of compensation which they were suffering from to-day, and if it became known that the administrative expenses were three or four times as great as the amount paid in compensation there would be an outcry from the ratepayers. It was generally understood that half or a third of the money would be found by the Government. In the County of Worcester, where their friend Mr. Carless was one of the inspectors, he found that out of 31 suspected cases reported, 17 were found to be suffering from the disease and 14 were non-tuberculous. Sixteen had been slaughtered and one remained to be slaughtered, the owner having objected. The total amount of compensation paid was £39 17s. 6d., and they had received as salvage £17 8s. 9d. They had a claim on the Board of Agriculture of £11 4s. 4d. The total expenditure by the Committee was £157 8s. 5d., and they received from the Government £11 4s. 4d. They should try to bring pressure on the Board of Agriculture so that the basis of compensation should also include a share of the administration expenses. The highest compensation his committee paid for an animal was £5 5s., and in another case it was £4 10s. As far as the Worcestershire County Council was concerned, they were as advanced as most County Councils in the country, and their inspectors were being increased.

Mr. CARLESS said if a man was an inspector under the Order, he was afraid it was not a fact that he got 2s. 6d. for every case he reported. It was very difficult for a veterinary surgeon to report the case of his own client. If he were to report some of his clients he would soon lose them altogether. With regard to tuberculin, he had used it for testing purposes hundreds of times, and in a herd of 20 he generally got seven or eight that reacted, but it was not always the poorest animals that did so.

Mr. CHAMBERS related his experience of the Order, and said he did not think it was going to answer as at present administered.

Mr. WHYTE asked whether in the case of a suspected cow it would not be better to fatten it during the period of isolation, so as to make it ready for the butcher.

Mr. GRASBY said the instructions issued to them as inspectors as to the method of taking the milk, etc., seemed to be very elaborate, but there were difficulties which a practitioner appreciated better than those who had drawn up the Order. He mentioned a case in his own experience in which milk was being sent to London from a dairy of 36 cows, and on the 20th of June samples were taken at Harrow and examined at the Lister Institute. A month later a report came to the local authority saying evidence of tuberculosis was found in the milk. They went over the herd in the usual way, but it would have been absurd to isolate any one cow. They fixed on three, the others appearing to be perfectly healthy. Specimens of the milk were sent to the Veterinary College in London, and acid fast bacilli were found. The cow that was found to be affected was isolated, but the owner declines to have her slaughtered unless he is paid compensation for her milk until such time as she would have run dry. He threatened to proceed against the local authority for the loss of profit owing to the milk from these three cows not going to London. It was all very tedious work, and there was bound to be a policeman on the ground as well as the sanitary inspector. Such things as that worried clients, and made the Order very unpopular.

Mr. PEMBERTON asked whether testing with tuberculin affected a cow in calf? He tested three cows that were in calf, and two of them slipped their calves. As for reporting cases, he was not going to report tuberculosis at 2s. 6d. a time. It was absurd to think they were going to offend their clients for the sake of half-a-crown. He commented on the absence of properly qualified inspectors from markets.

Mr. SLIPPER said that as far as he knew there was no inspection of the markets in Staffordshire at all.

The PRESIDENT said his thanks were due to Mr. DeVine for his kindness in preparing such an interesting paper that afternoon, and however much they knew the Order, his remarks had given them food for reflection. He mentioned a case in his own practice where water from a colliery was the suspected cause of tuberculosis in cattle. He could endorse what other speakers had said about the inefficient manner in which markets were inspected. He also agreed with those who objected to the present system of compensation. It was not only inadequate, but it was also frequently unfair.

Mr. DEVINE, replying to the discussion, said he felt greatly flattered by the reception given to his paper. With regard to the association of pit water with tuberculosis, he would like to see an analysis of the water before expressing an opinion himself, as he did not see how water coming out of the ground in that way could contain tubercle bacilli. It might, of course, contain some chemical substance which might so lower the animal's power of resistance as to make it more likely to contract tuberculosis. He was interested in Mr. Tipper's figures as to the working of the Order in Worcestershire. Mr. Tipper mentioned that there were not so many cases as had been expected, and then he went on to say that the Board of Agriculture had asked local authorities to "go slow" at first. That being so, the returns which Mr. Tipper quoted could not possibly be taken as any criterion of the number of diseased animals in the country. He agreed that the Government should pay a fair share of the working expenses of the Order, although that was perhaps not a matter for them as veterinary surgeons. Veterinary surgeons had to get their own bread and cheese, but the question of appor-

tioning the cost of administration affected the ratepayers. When they considered the number of people in London who were consuming meat and milk who paid nothing in the way of compensation, the cost of which came on people living in the country districts, they would see at once that it was a national and not a local question. Mr. Carless suggested that a veterinary inspector would not get 2 6 per case he reported outside his work as inspector. If he went out on County Council business, it would be a different matter, but if he met with a case in his ordinary practice and reported it, he would surely be entitled to his fee. As for the difficulty of reporting the case of a client, which more than one speaker had referred to, he wanted to emphasise that it was their duty to explain the matter to clients and advise them that what was done was really in their own interests in the long run. Mr. Whyte had asked whether it would be right to fatten a cow that was in isolation; his own experience was that no good would result, but the owner could try to do so if he wished. In the case mentioned by Mr. Grasby, he did not think the owner had any claim on the local authority for damages. That point had been decided in the case of holding up horses that were suspected of suffering from glanders. In answer to Mr. Pemberton, he did not think it would harm a cow in calf to apply the tuberculin test. If they used the Pasteur tuberculin, he advised them to get it direct from Paris, and not from agents, as it might be months old.

Mr. PEMBERTON: I get it in hermetically sealed tubes.

Mr. DEVINE: Yes, but you want to have it fresh. Some years ago, he tried all the different tuberculins on the market, and he found that M'Fadyean's tests were as good as any. He bought his tuberculin in five dose tubes, as it was better than getting the larger tubes, using only a portion at a time, and thus allowing the remainder to become stale. He was a great believer in the subcutaneous method of testing, and he had rarely got a doubtful reactor. Testing with tuberculin took up a lot of time, and carelessness often explained many of the uncertain results that were spoken to. He recommended them always to give a full dose rather than an under dose. They were more likely to go wrong with an under dose than with an overdose. He tested in ordinary cases at 3, 9, 12, 15 and 18 hours. As regards County Councils and auctions, he thought veterinary surgeons themselves had been very lax in not taking the opportunities that offered themselves under this Order, and if the local authorities did not do their duty when their attention was called to a case, he advised them to complain to the Board of Agriculture.

On the motion of Mr. Grasby, seconded by the Hon Sec., Mr. DeVine was thanked for his paper and his remarks.

Before separating the members partook of tea together.

H. J. DAWES, F.R.C.V.S., Hon. Sec.

SCOTTISH METROPOLITAN VETERINARY MEDICAL SOCIETY.

A meeting was held at Lanark on the 14th June. The members present were:—The President, Mr. Peter Wilson, Lanark; Prof. O. C. Bradley, Edinburgh; Messrs. J. Storie, East Linton; A. Baird, J. Riddoch, Prof. Gofton, and James Henderson, Hon. Sec., Edinburgh.

Visitors: Messrs. A. M. Trotter, Prof. J. R. McCall, Glasgow; H. Begg, Hamilton; R. N. Lewis, Dumfries; McDonald, of *The North British Agriculturist*; and Stirkie.

Apologies for absence were received from Professor Dewar, Messrs. Rutherford, H. Thompson, J. Aitken, T. P. Young, Bannatyne, D. M. Reid, J. Borthwick, D. Hamilton, W. Anderson, J. Player, Reid, J. F. McIntyre, J. Peddie, T. M. Inglis, McFarlane, and Peggie.

Those members and visitors who arrived at Lanark early enough were entertained by the President to a most enjoyable excursion to the Falls of Clyde, and afterwards to lunch at the Station Hotel.

The meeting began shortly after 3 p.m.

Mr. R. RUTHERFORD, proposed by Prof. Bradley, and seconded by Mr. P. Wilson, was unanimously elected Hon. Member of the Society.

A letter of resignation was received from Mr. J. Basil Buxton, and on the motion of the Hon. Sec., seconded by Mr. J. Storie, his resignation was accepted.

At our last meeting on 1st February, Mr. Cameron, of Berwick-on-Tweed, made a motion regarding the Milk and Dairies Bill, which was then under discussion, calling upon the R.C.V.S. to take active steps for its improvement, which motion was carried.

The following reply has been received from Mr. Fred Bullock, Secretary to the R.C.V.S.:

"April 14.

"Dear Sir,—I submitted your letter of the 8th inst. to the Parliamentary Committee at its meeting on Thursday last, when the Milk and Dairies Bill was under consideration. I have to inform you that a resolution was passed with regard to Section 2 of the Bill, as follows:

(a) *Milk and Dairies Bill.* "That in the opinion of this Committee the following amendments are required in this Bill: Section 2 (1) To substitute the words "to take with him" in place of the words "if accompanied by" in lines 6 and 7, the last clause thus reading: "and to take with him a veterinary inspector or some other properly qualified veterinary surgeon to inspect the cattle therein."

Section 2 (2) in line 21 to substitute for the words "and the cattle therein if accompanied for the purpose of the inspection of the cattle by a veterinary inspector or some other properly qualified veterinary surgeon," the words "and shall require a veterinary inspector or some other properly qualified veterinary surgeon to accompany him and to examine the cattle therein."

(c) That a Sub-committee consisting of Dr. Bradley, Mr. Garnett, Sir John McFadyen, Prof. Mettam, Mr. Mulvey, and the Solicitor be appointed to take such action as they may consider necessary for the purpose of securing the insertion of these amendments in the Milk and Dairies Bill and the Milk and Dairies (Scotland) Bill.—Yours faithfully,

(Signed) FRED BULLOCK.

New Members. Mr. JAS. PARK HAMILTON, M.R.C.V.S., Dundee; and Mr. R. R. ARTHUR, M.R.C.V.S., Auchtermuchty, having been nominated at last meeting were duly elected members of this Society, on the motion of Prof. Gofton, seconded by Mr. J. Storie.

MAN AND MICROBE: FRIEND AND FOE.

By Mr. J. STORIE, M.R.C.V.S., East Linton.

When Darwin wrote of the struggle for life that was continually going on throughout all nature, and which has had such a far-reaching influence on the evolution of all living things, he had in his mind's eye more particularly beings of the same species struggling and fighting for the necessities of life. Although he was not aware of the part bacteria took in this struggle by their production of disease, he was aware that the larger parasites did. He wrote, "The dependency of one organic being on another as of a parasite on its prey lies generally between beings far remote in the scale of nature." How significant and prophetic these words

were can only be appreciated now by our knowledge of microbic disease. When we think of the innumerable forms of life, animal and vegetable, we cannot comprehend any greater contrast, any two forms, further remote than man and microbe. Between these two perhaps the greatest struggle of all is taking place. Man, lord of creation, with dominions over the beasts of the field, the fowls of the air, and the fishes of the sea, and microbe the simplest and most insignificant to all appearance of living things. Can you picture in your mind's eye a tiny speck of jelly, so minute that magnified 500 or even 1000 times, its structure is so simple that unless stained it cannot be distinguished, and let the mind wander still further into the unknown and try to imagine a something that the most powerful microscope cannot picture and the finest porcelain filter cannot catch. Simply by their works ye shall know them. Nevertheless these little objects hold an unique distinction, in so far that there are certain species which are not yet by any means under man's control. They are even threatening his supremacy, and taxing all his ingenuity to keep them in check. We, as a profession, must take a foremost part in this great struggle against disease, and do our utmost to ensure man's victory over this pertinacious enemy.

There are many forms which, if properly handled, are of great economic value, but they hold a much more important place in the world's history. We depend on certain species for our very existence. No microbe, no man. Without the microbe, there would be no grass or vegetation, without the grass no flesh, and without flesh or its equivalent no man. In the past microbes have been looked upon by the ordinary observer as obnoxious little wretches, working mischief or dealing out death when ever they appeared. Now they are recognised as a power in the land. Friends far outnumber, foes. They abound almost everywhere in earth, in air and water. In the animal body there are scores of species. In dairying, in the curing of tobacco, in the tanning of leather, in brewing and distilling, in the purification of sewage, and in innumerable other processes which are daily increasing in importance and number they are invaluable, but by far their most important work is in the soil, where they act as scavengers, breaking down dead animal and plant matter. They also play an active part in nitrification. Without them the cycle of life could not be maintained. Their numbers in the soil can hardly be estimated. Cultivated soil teems with myriads of these minute forms of life—some for good, some for evil. They are most numerous at a depth of from 8 to 20 inches, and in a single inch of this soil (about 15 grs.), as many as 500,000 have been found.

In connection with farming, not many years ago tillage was looked upon as merely a mechanical operation, but a great advance was made when the biological aspect was opened up. There is perhaps no industry in which the study of bacteria is of greater importance to mankind than that of dairying. Cow's milk, in the first place, takes such an unique position as a food, especially for young children, that the presence in it of harmful forms of bacteria may have a serious effect. On the other hand, friendly forms have a most beneficial effect on the manufacture of butter and cheese. Since the discovery of bacterial starters the latter processes have been improved and simplified to an extraordinary extent. It is well known that milk which is, as I have already said, so valuable as a food for mankind, is at the same time a most suitable diet for bacteria, wherein they thrive and multiply. On this account, in certain cases it sometimes acts as a medium for the conveyance of most deadly poisons into the systems of young children. The fact that the necessity for a supply of pure milk is of vital importance has taken a long time to stir Parliament to take action in this matter. At last, how-

ever, what with the Tuberculosis Order and the Milk and Dairies Bill, matters appear to be in a fair way of being realised. From an economic point of view a most important victory has been gained.

FOOD PRESERVATION.

Perhaps no triumph of modern times over the microbes is of such great economic importance to this country as that over the putrefactive bacteria in the preservation of the nation's food. The refrigerator, assisted by our ships and the railway, have brought the sheep and cattle farms, the gardens and dairies of the whole world to our very doors. But for this victory our working people could not be fed. Without doubt the breeding and rearing of bacteria will become a science. Their good points and their bad ones will have to be studied, the useful varieties preserved and the others destroyed. New varieties will be produced, just as in the case of other plants.

PATHOGENIC OR DISEASE-PRODUCING BACTERIA.

Bacteria are divided into two classes, roughly speaking, saprophytes and parasites. The saprophytes live on dead organic matter. Parasites live and thrive on the living bodies of higher forms. Strictly speaking, the pathogenic or disease-producing type, belong to the parasites, although under certain circumstances the saprophytes may cause disease by their action on some parts of the tissues which may have become dead, by the production of their ptomaines, and no doubt there are others which may become parasitic on occasion. In comparison with the endless number and wide distribution of saprophytic bacteria—there are something like 2000 known species—there are in reality only few pathogenic species, perhaps 30 or more, known. A very few of these are able to perpetuate themselves outside the animal body, the better known are those of tetanus and anthrax. The great majority are dependent for their maintenance on other living bodies. They vary in an extraordinary degree as to how they affect animals, being pathogenic to one species and harmless, or almost so, to another.

Individuals of the same species of animal also show great divergence. Following infection by the microbe, one may be affected seriously, another slightly, and another not at all. In studying effects, both the micro-organism and the animal attacked must be taken into consideration. Much depends on the path by which the infecting microbes enter the body whether they produce disease or not. Certain species may come in contact with a breach in the skin and produce no bad effect, but the same if swallowed may give rise to fatal infection. Conversely, forms that are virulent when entering by a wound may cause no ill effect when swallowed.

The animal body is well protected against invasion. The body itself is covered with the skin which no microbe can pierce unaided. The mouth, nasal cavities, respiratory and digestive tracts are protected by a covering of mucous membrane, and the healthy stomach produces a powerful antiseptic in the form of hydrochloric acid, which should account for many species that may be swallowed.

The mere presence of bacteria in the body is not in itself harmful. Their action depends on the production of a chemical product which is known as a toxin. The virulence of any particular microbe is according to the quantity and quality of the toxin it produces. These toxins are only produced when the bacteria are multiplying, so that they may be present in fairly large numbers in some parts of the body without causing any disturbance. However, if some change takes place—a change to environment more suited to their habits, then they rapidly increase and their poisons become diffused throughout the system and produce disease.

What are the means of defence by which pathogenic

germs, even after their entrance into the tissues and fluids of the body are disposed of, or at least prevented from carrying out their depredations? The opportunities for such an invasion are so numerous, and the contact of animals with disease germs so constant, that but for some subtle power all would succumb. The power which enables the body to accomplish this is spoken of as resistance, and when specially marked, immunity. This may be possessed by an animal naturally—"natural immunity," or it may be acquired by an animal either by passing through an attack of the disease or by artificial means—by inoculation; this would be acquired immunity.

Susceptibility and immunity are problems essentially chemical, involving reactions between the tissues of the host and the toxins produced by the bacteria. If we are to understand disease so as to effect a cure, we must study these complex chemical reactions. In an outbreak of contagious disease among farm animals you must all have observed how the effects differ in the various individuals. One dies, another never displays a single symptom, and a third has a more or less severe attack. How do you account for these differences? Doubtless you will say it may depend on the number and strength of the infecting organisms. That may be true, but in considering the animals, you would say in the first place that the bodily health of each was different at the time of attack; possibly in the case of the one that succumbed, and the other that was severely attacked the powers of resistance would be less. Now, we must not confuse mere appearances of bodily health and strength with immunity to disease. What is this immunity then? In the first place the body is defended by the leucocytes or white corpuscles of the blood, and in the second place by certain bactericidal substances in the blood serum, which kill or render the invaders harmless. The leucocytes in the role of the defenders of the body are known as phagocytes or eating cells. It is not quite agreed whether they act as soldiers or scavengers, or perhaps both.

METCHNIKOFF'S THEORY.

When bacteria, or any foreign substance, gains entrance into the body, a definite reaction on the part of the phagocytes takes place at and around the place of entrance. Although at first a diminution in their numbers takes place, in a short time they are attracted in large numbers to the spot. They possess the remarkable power of penetrating the walls of the blood vessels. When we remember that these walls are entire, it is astonishing how they manage this without leaving any leakage or perforation. On the entrance of bacteria to a wound, for instance, the leucocytes congregate in large numbers in proximity to the breach and attack the invaders in quite a military style, and if in sufficient numbers, they doubtless prove the victors. Metchnikoff's theory is that the phagocytes both eat and digest the microbes.

EHRICH has a different theory. He believes that two substances must be present in the blood before immunity can be established. One to make the microbe vulnerable and the other to kill it. The microbe holds on to the first with one hand, and to the deadly bactericide with the other, and thus joins them together.

ALMROTH WRIGHT has still another theory. He believes that normal blood contains substances which he calls opsonins or cookers, that render the bacteria digestible before the phagocytes can absorb them.

There seems no reason to doubt, however, that the phagocytes play the most important part in the defence of the body against the attack of bacteria. Consequently, if any means could be discovered by which their numbers could be sufficiently increased, a great step in advance would have been made. In connection with this, chemical substances, known as auxetics, have

been found to increase cell proliferation. In this, as in the case of bacteria, we have to contend with foes as well as friends. Certain of them when applied to the multiplication of the leucocytes, if properly handled, may solve the problem of the treatment of microbic disease by their power of increasing the phagocytes sufficiently to destroy any number of bacteria which may gain entrance to the body. At the same time it has not been overlooked that the possible action of other auxetics on another class of cells may, by their abnormal increase, produce cancer. I am sure we hope and pray that this riddle may be solved soon, and whether these auxetics may be produced from gaswork's pitch or tar the discovery will not have been made a day too soon. If the cause of cancer was once known no doubt a means of cure or prevention would soon follow.

Attenuation of the Virus.—Bacteria can be cultivated and caused to vary widely in virulence, so that in many instances they can no longer do harm to animals which would otherwise succumb to their influence. Pasteur found that exposure to air, certain conditions of nutriment, varying temperatures, etc., had their effect. Anthrax bacilli, grown at a high temperature for 24 days lost their virulence so that they could no longer kill a sheep. He also discovered that the virulence of a parasite for one species of animal may be diminished by its growth in another. It was also known that the blood serum of a rabbit could kill unaided the anthrax bacillus. In this way he discovered that vaccines could be obtained which would induce a mild attack of disease such as would protect the individual from a second attack, just as vaccination with the lymph of cow-pox protects an individual against an attack of small-pox. In another way the virulence can be reduced by growing cultures in weak antiseptics such as carbolic acid.

Inoculation.—*Variola*. This prepared the way for the practice of inoculation which no one can doubt has a great future before it. The real struggle between man and microbe was inaugurated by the discovery in the first place that a person who had suffered from small-pox did not contract the disease a second time, and in the second place that the disease could be produced in a milder form by arm to arm vaccination, and in the third place, it was found that a person who had had cow-pox was immune to small-pox. For long it had been known that arm to arm vaccination produced the disease in an attenuated form, but this method had many drawbacks, and a fair percentage of deaths followed it. It was found later that the organism which produced small-pox was so much modified in its behaviour and virulence by its passage through the body of the cow, which is more resistant to the disease than man, that the practice of using calf lymph was instituted, and is that which is carried on at the present day.

The following diseases have been experimented with on the same lines, but with varying success.

Tuberculosis.—The tubercle bacillus was discovered by Koch in 1882. It attacks man, monkeys, cattle, horses, dogs, cats, pigs, and birds, reptiles and fishes. It is responsible for the death of one-eighth of mankind. It is undoubtedly the disease of animals that falls heaviest on agriculture, causing more ravages than all the other contagious diseases put together, at least such is the case in this country. Unlike other contagious diseases, which affect us more or less at intervals, tuberculosis pursues its course of destruction slowly but surely, in many cases the patient throwing out the deadly bacilli at the rate of thousands per day, unknown and unheeded by all concerned. In others it may lie dormant for months and for years in the body, holding its citadel against its enemies the phagocytes in some corner of the lung perhaps, ready whenever opportunity occurred to advance to attack any vulnerable point.

Drying seems to increase its resistive powers, it can deprive itself of all or most of its water and assume an inert form, and can survive without any nourishment whatever, and whenever it finds a suitable *habitat* can spring into active life at once and germinate like a seed. In the case of human beings the sputum is the greatest danger. A tuberculous patient spits on the floor, the sputum which may contain thousands of the microbes dries and mixed with the dust, especially in insanitary dwellings, rises and mixes with the air is drawn into the lungs where it may develop and produce the disease. This danger is equally present in byres where affected cows may be coughing and sneezing out infective discharges day after day. In badly ventilated and dirty buildings, you can imagine how the bacilli find a lodgment in the crevices of the walls and roofs where they may remain for an indefinite period in the dust and cobwebs, and, on being disturbed by flies or a gust of wind, drop into the air, fall on the food, into the milk pail, or may be inhaled by the other occupants of the byre. Outside the body the bacillus has great powers of resistance. It can live for a long time especially in dirt, dust, and darkness. Dried sputum has been found to contain live bacilli after two months. They resist putrefaction for several weeks and have been found alive in parts of a tuberculous lung that had been buried for the same time, they can withstand the action of the gastric juice for several hours.

The discovery of tuberculin by Koch has been of inestimable value in controlling the spread of the disease, as animals affected, however slightly, can be isolated, and if this were carried out faithfully the sources of infection would be greatly curtailed. Koch had great expectations of its curative effect, but we all know how disappointing the results proved.

Koch prepared his tuberculin by the following method: The bacillus is grown on sterile veal broth, to which has been added 1 per cent. of peptone, and 4 per cent. of glycerine. After six or eight weeks the culture is evaporated to one-tenth of its bulk over boiling water and filtered through porcelain. The filtrate is now tuberculin.

One of the greatest therapeutic triumphs of the 19th century was dependent on the discovery by Kitasato, a Japanese bacteriologist, that a person suffering from diphtheria could be cured by the injection of some of the blood serum of another animal that had recovered from the disease. If the toxins of the microbe of diphtheria be injected into the tissues of a horse, for instance, an antitoxin is produced. The horse is subjected to graduated doses, beginning with a few drops, (remember this is of the filtered toxin—no bacteria are present) and in the long run the horse can stand very large doses without any harm resulting. When in this condition the animal is bled in the ordinary way from the jugular, care being taken not to remove too much at a time and so weaken the animal. This can be repeated several times. The blood is allowed to coagulate, and the clear fluid on the top is the anti-diphtheritic serum which has the power of neutralising the toxins produced by the microbe of diphtheria in the human body. Under the treatment with this antitoxin the death-rate has fallen from 30 per cent. in 1892 to 9.6 per cent. last year.

CONTAGIOUS ABORTION IN CATTLE.

Next to tuberculosis, this disease causes more loss and disappointment to stockowners than any other. Medicinal treatment has been tried in every shape and form with but little success. Powerful antiseptics have been used, both externally and internally, but with little effect. Where rigid precautions have been taken regarding the disinfection of the discharges from the female, and disinfection of the generative organs of both male and female, by far the greatest success has been

obtained. Abortin, which is somewhat like tuberculin and mallein, has not as yet been a success, either as a diagnostic or preventive. Anti-abortion is another preparation which has been tried. It consists of virulent cultures of the bacilli and can only be used in non-pregnant cows. It has not been found a success either.

RABIES.

No discovery in connection with inoculation was hailed with greater thankfulness than that of Pasteur for the prevention of hydrophobia. Fortunately in this terrible disease the period of incubation varies from 40 to 60 days, so that there is usually ample time for its application.

The treatment consists in active immunity being produced with virus attenuated by drying, and administered during the long incubation period in doses of progressively increasing virulence. The virulence of the virus is regulated by the extent of the period of drying.

GLANDERS.

Thanks to the use of mallein, glanders is at least in a fair way of being controlled. Especially in London, where it was at one time so prevalent, the disease is being stamped out.

Mallein, like tuberculin, produces a rise of temperature in from 8 to 12 hours after injection, but it gives rise to a much more marked swelling at the seat of injection than does tuberculin. Its preparation is carried out much on the same lines as tuberculin.

TETANUS.

Although anti-tetanic serum has been in use for many years there is still great differences of opinion as to its efficiency as a curative. My experience of it personally was greatly in its favour to begin with, the first 8 or 10 cases which I treated with it recovered; latterly, however, I have not by any means had the same success. There seems no doubt, however, about its protective qualifications. In some districts it is used in all cases of serious wounds, and most successfully. Anti-tetanic is prepared in a similar manner to tuberculin.

Physical agents injurious to bacteria which can be utilised are dryness, light, and heat. Complete drying eventually destroys most of the pathogenic forms, although great differences of resistance are shown, some being killed in a few hours, while others, such as the T.B., can survive for a long time in a very dry condition.

Light—direct sunlight, is a most powerful germicide, except for a few species which exist in a manner similar to green plants. It has been found that exposure to direct sunlight will destroy the T.B. in a few hours. Well might we exclaim "Let there be light." What a reformation could be made in our byres and stables by the introduction of a sufficient number of skylights and windows, and if arrangements were made at the time for more perfect ventilation so much the better.

Heat is another efficient agent for sterilisation where it can be properly applied.

DISINFECTION OF BUILDINGS.

The disinfectants that can be used most effectively are hot lime waste and coal tar preparations in solution for buildings, and sulphurous acid for manure, not the least important part being thoroughness of application. There are spraying pumps on the market for this purpose which force the liquids into the most unget-atable corners and crevices of byres and stables. Under ordinary circumstances all these buildings should be thoroughly done at least twice a year. In connection with the animal itself much can be done when the bacteria are localised and can be reached. In the treat-

ment of abortion great benefit can be attained by giving injections of any of the approved antiseptics into the vagina and uterus, and into the prepuce of the bull. Much can also be done in dealing with the discharges from animals suffering from infectious diseases to prevent the particular disease from spreading, by treating these discharges with strong preparations such as sulphurous acid.

DRUGS.

It is doubtful if drugs prescribed internally to the host in the ordinary way have any great bactericidal action on parasites in the system. In many cases the host might be poisoned before the parasites become affected. Ehrlich, however, was struck by the fact that certain bacteria could be stained with a particular dye, and this led him to believe that the tissue in fact was susceptible to the dye that stained it. He believed that although a drug—say arsenic—was given to a patient suffering from microbial disease in the ordinary form, it would have no effect; you might poison the patient to an alarming extent without affecting the parasite, because the poison does not enter their bodies. Ehrlich's idea was to contrive what he called an amboceptor or two catcher, something like a stain that would hold on to the microbe with one hand and to the deadly bactericide with the other hand. In this way he prepared the compound, Salvarsan, known as 606, that being the number on the list of substances he had experimented with. This is the compound of arsenic which kills the parasites of syphilis and which has been of so great value to mankind.

The CHAIRMAN said they were all very much indebted to Mr. Storie for producing such an interesting paper. They had still a few minutes before train time, and if any one would like to speak in connection with the paper by way of discussion, they would be glad to hear them.

Prof. GOFTON said it was not just altogether an easy matter to pick up the various points for discussion in this interesting paper, for Mr. Storie had to hurry in the reading of it. One point that struck him was Mr. Storie's suggestion that bacteria operated largely, if not entirely, through toxins. He might be mistaken in what Mr. Storie said and what he meant, but he questioned very much if that could be accepted in all cases, and he was inclined to think that Mr. Storie took rather an optimistic view of toxins in the treatment and prevention of disease. One would not venture for a moment to belittle what had been done in this direction already, but he thought they had a very much longer way to go yet before they could claim any really high degree of efficiency in treating and preventing disease by means of toxins. At the present time he thought there was an inclination to attribute too much value to toxin methods in the treatment of disease. Another point which had struck him was in regard to the administration of drugs in the treatment of bacterial diseases. He was glad to hear Mr. Storie's remarks in relation to syphilis, but it was very hard to know how far they might yet proceed along these lines.

Prof. McCALL thanked Mr. Storie for his very interesting address. He was particularly struck with the practical manner in which Mr. Storie dealt with the subjects of the ordinary text-books. He was rather struck by Prof. Gofton's remark to the effect that serum treatment of disease perhaps had been over-estimated. Perhaps that might be applicable to disease in so far as they were concerned in this country, but he thought if Professor Gofton would refer to the work that had been done in this line abroad, and more particularly in America, he would see that the serum treatment of diseases had attained a considerable degree of efficiency, and was a treatment that was recognised by those in high authority. Another point that he had appreciated

in this paper very much was Mr. Storie's practical explanation of bacteriological methods. He should have liked if Mr. Storie had dealt a little more with the Tuberculosis Bill, and the relation of the bacteria in that connection. It was not an easy matter for a veterinary surgeon to come to a decision upon the presence or absence of tubercle bacilli, and particularly in relation to milk supply. He quite appreciated the objects of the authorities, but he thought the veterinary profession would find they would have considerable difficulty in coming to a definite conclusion as to whether the bacteria they were dealing with were actually tubercle bacilli or other bacilli.

Prof. BRADLEY said he did not pretend to pose as an expert bacteriologist, but he had some connection with the subject, practically and theoretically, and he should think there would be a considerable number of cases in which it would take not exactly a veterinary surgeon with ordinary knowledge of bacteriology, but take a bacteriologist, and one of great experience, to be able to say definitely whether they were dealing with tubercle bacilli or some other class of bacilli. That aspect of the Tuberculosis Order should not be lost sight of.

Prof. GORON said apparently he had not made himself clear in his remarks. He had no desire, and no intention, to belittle what had been done in the way of treatment with serum and toxins. What he meant to say was that the result of the value of that work was a tendency at the present time to presume upon it, and to carry it a little too far.

It was unanimously agreed to adjourn the discussion until next meeting.

JAMES HENDERSON, Hon. Sec.

Boarding out of Horses.

The "boarding-out" system, by which the War Office is endeavouring to maintain a reserve of trained troop horses is working successfully, the arrangement, so far, appearing to give satisfaction to both the Army Council and the "allottees." The system, however, does not wholly appeal to regimental officers who are naturally jealous of the care of the animals supplied them by the Remount Department. Their dislike of the system is perhaps responsible for the suggestion that those "boarded-out" horses, which were called in for manœuvres, imported mange from which the horses of so many units are now suffering. No evidence is yet forthcoming to substantiate that view. But assuming it to be correct, there must have been something radically wrong with regimental veterinary arrangements for horses in such condition to be accepted back on the strength. Several hundred horses have been dealt with under the scheme. As a rule, the horses are Irish-bred, eight years old, fully trained, and every care is taken to suit persons applying for them; they are delivered at Army expense, and a month's trial is allowed. The only cost to the "allottee" beyond keeping, is that of insuring the horse for £40, which costs roughly £2 per annum. The horses may be hunted, or used for any purpose save heavy draught, racing, or jobbing, but must not be put out to grass. They are liable to be called in for a month's training or manœuvres at Government expense, and on mobilisation must be given up immediately. Application for horses should be made to the officer commanding the nearest cavalry regiment, or to the Director Remounts at the War Office.—*The Daily Mail*, Hull.

DISEASES OF ANIMALS ACTS 1894 to 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders † (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered.*
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
Gr. BRITAIN. Week ended Sep. 6	6		6				2	3	26	40	3	44	454
Corresponding week in	1912	10	11		5	59	3	4	17	27	1	29	339
	1911	15	18				6	14				35	325
	1910		27	28			6	6			4	19	309
Total for 36 weeks, 1913	387		426				118	300	1937	3891	132	1760	23566
Corresponding period in	1912	576	654		75	501	126	236	2365	5121	174	2247	29240
	1911	599	742		8	425	138	326			307	1803	21123
	1910		1027	1235	2	15	257	781			343	1019	9167

† Counties affected, animals attacked: London 2, Middlesex 1.

Board of Agriculture and Fisheries, Sept. 9, 1913.

IRELAND.		Week ended Sep. 6		...	...	...	...	...	...	Outbreaks	2	1	14
Corresponding Week in	1912	...	...	...	2	11	...	...	...	1	1	2	11
	1911	...	...	...	...	...	...	...	...	...	1	...	8
	1910	...	...	...	...	...	...	...	...	...	...	2	14
Total for 36 weeks, 1913		...	...	...	...	...	...	...	...	101	376	113	681
Corresponding period in	1912	...	3	3	26	247	...	...	...	53	263	179	1493
	1911	...	7	14	...	...	2	3	...	50	254	92	1587
	1910	...	5	8	...	...	1	2	...	56	349	73	1707

† These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Sept. 8 1913

NOTE—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Personal.

BOLTON.—At 26 Woodland's Road, Shotley Bridge, Co. Durham, on the 6th inst., to Mr. and Mrs. W. T. Bolton, a son.

McGOWAN—ENGLAND.—A marriage has been arranged, and will take place at Bombay on the 25th October, between Major John A. B. McGowan, A.V.C., Ambala, son of John McGowan, Esq., Fair View, Millom, Cumberland, and Hester Geraldine, second daughter of Charles England, Esq., of Welton Manor, Brough, East Yorks.

MR. RICHARD ATHERTON NORMAN POWYS, Secretary of the Royal Veterinary College, Camden Town, N.W., left property valued at £1,010.—*Star*.

OBITUARY

THOMAS OLVER, M.R.C.V.S., Truro, Cornwall.

Graduated, Lond: April, 1867.

The death of Mr. Thomas Olver, which took place at Truro, on Saturday, 6th inst., has removed a very well-known figure. Deceased, who was 72 years of age, had been in indifferent health for the last two years, when he underwent a serious operation from which he never really recovered.

Mr. Olver was born at St. Mabyn, near Wadebridge, the son of Mr. Thomas Olver, a well-known farmer at Tresco, St. Mabyn. After qualifying in London he commenced practice at Truro 40 years ago as a veterinary surgeon, and in those early days was probably the only veterinary surgeon in the West of Cornwall. He held an appointment under the Privy Council, being one of its oldest officers, and afterwards served as an inspector under the Board of Agriculture. He was veterinary surgeon to the Royal Cornwall Agricultural Association for fifty years, and an inspector for Truro Division of the County Council. During the existence of the old Truro Horse Show, he for many years acted as hon. secretary. Mr. Olver also took an interest in the Fourburrow Hunt. He was never married, but leaves two brothers and a sister.—*West Briton*.

WILLIAM HOLLIDAY, M.R.C.V.S., Lazonby, Cumberland.
Lond: July, 1907.

At St. Pancras Station on Thursday, 4th inst., Mr. Walter Schroder held an inquest on the body of William Holliday, 30, a veterinary surgeon, and lately residing at Worship Street, London.

Mr. Robert Holliday, veterinary surgeon, Lazonby, identified the body as that of his son, who, he said, always enjoyed good health. For the last two months he had been employed at the Veterinary Infirmary, Worship Street.

Other evidence showed that on Monday evening, while the deceased was sitting in the waiting room of the departure platform at St. Pancras Station, he suddenly fell unconscious to the floor, and expired before medical aid could be obtained.

Dr. O'Donnell, who made an autopsy of the body, attributed death to syncope, owing to an acute attack of congestion of the lungs, while deceased was suffering from heart disease.

A verdict of "death from natural causes" was returned. Subsequently the body was removed to St. Pancras Station and entrained for Lazonby.

The funeral took place at Lazonby on Friday afternoon, and the huge gathering of mourners and friends spoke volumes for the place the deceased had made for himself in the affection of his neighbours, and for the respect in which his family is held in the locality. The

service was impressively conducted by the Rev. Canon Wilson. The deceased was a member of the Penrith Unanimity Lodge of Freemasons, and there was a large gathering of the brethren, those present including Messrs. J. W. Hewitt, W.M., T. H. Thompson, P.M., W. Scott, V.S., J. Barron, E. Story, L. Lamony, and G. Smiley, Penrith; Dr. Law, Kirkoswald; I. Longrigg, junr., and H. Smith, Lazonby; and W. Johnston, Langwathby. At the close of the service the brethren filed past the open grave and dropped into it the sprays of acacia.—*Cumberland Herald*.

CORRESPONDENCE.**THE STATE CONTROL OF TUBERCULIN.**

Sir,

I am one of many who look forward to, and carefully read your well considered and sage editorial remarks each week in *The Veterinary Record*, but those of us who are anxious that tuberculin should be placed under control must have been somewhat disappointed at reading your remarks on this subject in the issue of August 30th.

I need not enter into the question of whether this control is desirable or not, because this you fully admit, remarking that it would be "obviously desirable," "a good thing," and "would enable us to work under ideal conditions," but you proceed to enumerate what you feel are great difficulties.

1. That "no British Government would be at all likely to adopt it." May I say that the President of the Local Government Board, who would have to deal with this matter, has made first-hand enquiries and expressed himself, privately, entirely in its favour.

2. That it "would interfere with vested interests." We may ask what vested interest has not been interfered with successfully during the last few years? I need mention only two—beer and land. Compared with these, the vested interests, if any, in tuberculin are quite insignificant. If I thought it would do harm to the manufacturers of tuberculin I would not support it, but surely it is to their advantage to ensure that it shall only be employed by a properly qualified man who knows how to use it to the best advantage, and not to abuse it.

3. That "legislation could not be properly enforced." The distributing institutions are so few, and many of them even now are co-operating splendidly by refusing to sell tuberculin to any but veterinary surgeons, that it should be a comparatively easy matter to enforce. Besides, a herd of cows, or even a single cow, cannot be tested without a number of people knowing. We should also have the support of the majority of agriculturists, for as I indicated in a previous communication, they have expressed themselves entirely in favour of reform in this direction; in fact they are demanding it more strongly even than we ourselves.—*Vide The Farmer and Stockbreeder*.

4. That it "would make it a secret practice." It is almost impossible to conduct the tuberculin test secretly, but those owners who are now employing unqualified persons to defeat the operations of the Tuberculosis Order are not doing it publicly, otherwise they would not be able to sell their reactors in the market afterwards. There would be little difference on this score.

It is well that a subject of this sort should be thoroughly discussed from both sides, and it is with this idea that I venture to make these remarks.

Are the difficulties as great as suggested? Shall we veterinary surgeons wait for the agriculturist to again come to our help (e.g. the Milk Bill) and show us what should and must be done, not only to guard our interests, but what is more important, to protect the honest cattle owner and ensure a standard reliable tuberculin in the hands of those qualified to use it.—Yours faithfully,

G. P. MALE.

Reading. Sept. 10.

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THE SCHOOLS.

During the week after next, all our schools will re-open their doors. The dates of the opening meetings have already been advertised, and only vary very slightly—from September 29th to October 1st. The meeting at Camden Town is this year of special interest, for Sir John M'Fadyean, who will give the inaugural address, is just completing twenty-one years of service there. It was in 1892 that Prof. M'Fadyean made his first appearance at Camden Town and delivered the inaugural address as the newly-appointed Dean and Professor of Pathology and Bacteriology. Coming from Scotland with a great reputation, he was understood at that time to be the future Principal of the School, and the next occasion on which he delivered the inaugural address—in 1894—marked his actual accession to the Principalship. We all know how the College has developed in his hands since then, and there should be a good attendance of old pupils to see him attain his majority upon its staff.

AN INFECTING AGENT IN TUBERCULOSIS.

A possible agent in the spread of bovine tuberculosis was mentioned at the Midland Counties discussion, which we printed last week.

Water from collieries has not usually been regarded as a source of tuberculosis; but more than one speaker at the Midland meeting cast suspicion upon it; and the name of Prof. M'Call was mentioned in support of the idea. On the other hand, Mr. DeVine—an acknowledged authority—expressed doubt, not seeing how such water could contain tubercle bacilli.

It is not easy to understand how colliery water can be directly infective, unless at some portion of its course it is liable to infection from tuberculous colliers. But there is some clinical evidence indicating infectivity; and we should like to hear if more can be adduced. The point is of practical importance, apart from its scientific interest.

Indirectly it has some bearing upon the vexed question of the channel by which cattle usually become infected. It may prove to be an argument of some value in the old controversy of ingestion *versus* inhalation. Water has been justly credited with conveying infection in various diseases, and tuberculosis may be one of them.

FRACTURE OF THE CUNEIFORM MAGNUM.

I think the following case which recently came under my notice, and of which I send a short description, with two photographs taken shortly after the accident, may be of interest to your readers. I regret that the photographs are very indistinct as I was compelled to take them in a very bad light, and the movements of the horse would not permit of sufficient exposure, but hope you will be able to make some use of them.



Subject. A five-year-old bay Australian mare, about 15 hands, the property of H.M. the King of Siam.

History. The mare was being led back to her stable which is built on piles, and stands about four feet above the level of the ground. To enter the stable it was necessary for the mare to walk up the inclined boarding shown in the accompanying photograph. Whilst doing this she slipped and fell. Being unable to rise, temporary slings were erected and by this means she was raised to the standing position, when it was found she was unable to bear any weight on the off hind. The limb assumed an abnormal position, appearing longer than its fellow. The point of the toe rested on the ground, whilst there was excessive flexion of the hock and fetlock joints. When viewing the injured hock from either side, it had the appearance of a very pronounced curb.

On manipulation there was distinct crepitus and increased mobility evident in the hock joint; these

symptoms being particularly marked in movements of abduction and adduction of the metatarsus, but pain was not marked.

The following morning there was a moderate amount of hard swelling, chiefly confined to the inner and posterior aspects of the hock, and the mare was shot.

On post-mortem examination the cuneiform magnum was found to be completely fractured from anterior to posterior border in almost two equal parts.

H. G. TABUTEAU-HERRICK, M.R.C.V.S.

Royal Stables, Bangkok.

July 26th.

[The second photograph unfortunately would not "reproduce."].

ABSTRACTS FROM FOREIGN JOURNALS.

HERNIA OF THE POINT OF THE CÆCUM IN A MULE. —RADICAL CURE.

Auger records (*Journal de Méd. Vét. et de Zootechnie*) the case of a four-year-old mule which presented, towards the inferior third of the right flank and rather posteriorly situated, a soft depressible swelling the size of a child's head, which was easily returnable into the abdomen. Auger could easily make out the circumference of an almost circular hernia ring of about 10 to 12 centimetres (= 4 to 4½ inches) in diameter. The diagnosis of ventral hernia was therefore established with facility, and was also supported by the history. The animal had been pastured amongst cattle, and had received a violent blow in the right flank from the horn of one of them about three months before.

Having thrown the animal, Auger found that the hernia was easily reducible; but after returning it to the abdomen the sac appeared thicker than normal. He decided to attempt radical cure by suture.

Twenty minutes before the operation the mule received an injection of morphia and atropine. He was thrown upon the left side, and then anaesthetised with chloroform.

Having taken antiseptic and aseptic precautions, Auger made two curved incisions, each about eight to ten inches long, meeting at the ends and isolating a piece of skin from 2 to 2½ inches broad over the hernia. He then separated this piece of skin from the sac, and removed it. Next he dissected the sac from the skin as far as the opening of the hernial ring. The sac appeared to be free from adhesions, although its walls were rather thick.

Auger then secured the sac with forceps, and made an incision from 1½ to 1¾ inch long in it. To his great surprise this incision opened into a pouch containing alimentary material, extending upwards into the abdomen, having a volume equal to that of the sac, and adhering to the latter throughout its extent. Considering the shape of this intestinal pouch, there could be no doubt that it was the point of the cæcum which had lodged in the hernial sac and become adherent to it.

The intestine was now separated from the sac and solidly sutured. The adhesions which the cæcum had formed were then broken down, and the hernia was returned into the abdomen.

The rupture in the abdominal wall was then closed by sutures, and a clamp of Marlot's pattern. Although the abdominal wall around the hernial ring was very thin, the results were excellent. The temperature never rose above the normal. At the end of twelve days the sutures and clamp were removed. By that time the cicatrization of the muscles was perfect, but as some skin had undergone necrosis from the pressure of the clamp, a rather large cutaneous wound was left. This cicatrised in a month's time, and the cure was then complete.—*Annales de Méd. Vét.*

VARICOSE TUMOUR OF THE VAGINA IN A MARE.

Hartog records (*Tydschr. voor Veeartsenijkunde*) the case of an aged mare, some months pregnant, which frequently showed a hæmorrhagic discharge from the vulva. These repeated losses of blood had brought about a very pronounced anæmia.

Careful exploration of the vagina revealed the existence upon the roof of the vaginal wall, about six inches in front of the vulvar commissure, of a duplicature of mucous membrane which was hanging in the lumen of the vagina. At its base it had the dimensions of a two-franc piece.

A constant hæmorrhage was being produced from this place, and became accentuated at the moment of the vaginal exploration. It was possible to almost totally efface the tumour by compressing it with the finger, and when this was done the hæmorrhage ceased. These manipulations did not cause the least sign of pain. The blood presented the characters of venous blood. Hartog diagnosed a varix which had induced anæmia as a consequence of repeated losses of blood.

By means of a speculum, Hartog dilated the vagina sufficiently to enable him to apply a ligature to the base of the tumour. When this was accomplished the hæmorrhage immediately ceased, and the part compressed in the ligature came away at the end of seven days. The general condition of the mare improved rapidly, and the only after-treatment that Hartog adopted was the introduction of a capsule of bacillol into the vagina twice daily.—*Annales de Méd. Vét.*

W. R. C.

REPORT UPON THE INVESTIGATIONS OF THE PECTORAL FORM OF INFLUENZA OF THE HORSE (BRUSTSEUCHE) AT THE ROYAL INSTITUTE OF INFECTIOUS DISEASES.—GAFFKY (*Ztschr. Veterinärk.*, 24 (1912), Nos. 2, pp. 65—76, fig. 1; 3, pp. 113—122; abs. in *Rev. Gen. Méd. Vét.*, 20 (1912), No. 230, pp. 77—79).

This paper presents the results of bacteriological studies, investigations of the histogenesis of primary lesions, period of incubation, experimental inoculations of laboratory animals and horses, and the role of rats, mice, and insects in the transmission of the disease. In studies of 4,000 slides made from

523 fragments of various organs, the author failed to detect the presence of any causative organism. Sarcosporidia were frequently found in the diaphragm and intercostal muscles but were present in healthy as well as affected horses. Attempts to cultivate an organism aerobically and anaerobically from the lung tissue, blood from the lungs, pleuritic exudate, spleen pulp, etc., on various media containing blood serum resulted negatively. Two colts, six months of age, were slaughtered on the 60th and 62nd hour respectively, after having ingested faeces and having been inoculated with discharges from the affected animals (with which they were placed in contact) with a view to determining the tissues first attacked; in one a pneumonic focus with pleuritic infiltration was present, in the other a simple localised pulmonary oedema. The intestinal wall of both animals was equally inflamed in places throughout its length. These investigations indicate a priority for the intestinal lesions, but further investigations are considered necessary in order to settle the question.

The incubation period was found to be about 30 days. Laboratory animals inoculated with, and fed upon various infected products, proved to be refractive, and similar results were obtained from six horses to which various products from infected animals, including intestinal contents and fragments of pulmonary tissue, were fed. In an attempt to determine their possible role in the transmission of the infection, horses were fed upon the droppings and bodies of rats and mice which had been kept in cages into which dung from affected horses was introduced almost daily for nearly a month, but with negative results. Transmission experiments with various insects and arachnids resulted negatively.

ON THE ETIOLOGY OF THE PECTORAL FORM OF INFLUENZA ("MALADIE" TYPHOIDE) OF THE HORSE.—J. LESAGE (*Bul. Soc. Méd. Vét.*, 89, (1912), No. 20, pp. 498—513).

The author thinks that the influenza of the horse is a diplococcic septicæmia, and that the diplococcus pneumo-enteritis equi of Galtier and Violet may be the causative organism.

SALVARSAN AND ITS ADMINISTRATION IN THE PECTORAL FORM OF INFLUENZA IN THE RUSSIAN ARMY.—I. GORDSJALKOWSKY (Abst. in *Berlin Tier. Woch.*, 28 (1912), No. 39, pp. 720—721; *Amer. Vet. Rev.*, 42, (1912), No. 3, pp. 350—352.)

The satisfactory results following the administration of salvarsan subcutaneously in 23 preliminary cases, led to its use in the Russian Army in January, 1911. In order to determine its therapeutic effect when injected into the blood, experiments were carried on with 50 horses; in four cases the injections were made immediately after the detection of the disease, in 35 cases on the second day, and in three cases on the third and fourth days.

The temperature usually fell six or eight hours after administration, and after 48 hours was again

normal, the inflammation of the lungs and pleura disappearing at the same time. A second administration was necessary in six cases, as the temperature rose again, after a period of from two to four days, to 104 F. These horses were first treated with 2 gm. of salvarsan, and the second time with 1 gm., which proved to be sufficient to insure complete recovery.

Other horses in which the symptoms were less severe, were given doses varying from 1 to 1.5 gm. In these cases, after a slight recovery, a partial relapse occurred which necessitated a repetition of the injection, whereupon a rapid recovery followed. In the one fatal case among the horses treated with salvarsan the temperature increased and reached 108 after four hours.

It is stated that the dose administered to young horses of 1100 lb. should not exceed 2 gm. It is recommended that the administration be made at the outset of the disease, using a solution in the proportion of 1:500, which should be administered intravenously.

ON THE TREATMENT OF THE PECTORAL FORM OF INFLUENZA (BRUSTSEUCHE) OF THE HORSE WITH SALVARSAN.—NEVERMANN. (*Berlin. Tierarztl. Wchnschr.*, 28 (1912), No. 14, pp. 241-246).

Thirty-eight horses suffering from the pectoral form of influenza were treated with salvarsan, which was administered in 2 to 3 gm. doses, intravenously in 27 cases and intramuscularly in 11 cases.

Two of the 27 animals to which the salvarsan was administered intravenously died; in one, death was either due to paralysis of the heart as direct result of an intoxication, or to an embolus; in the other case, to necrotic pneumonia. Ten of the other 25 cases to which the salvarsan was administered intravenously had a normal temperature within 24 hours, and the temperature of the remaining 15 had fallen more or less. In one case a second administration of the drug was necessary. In all cases a thoracic dulness was present at the time of treatment and in six of the fourteen remaining cases a dulness appeared during the further course of the disease.

In the 11 animals to which salvarsan was administered intramuscularly the beneficial influence of the drug on the further course of the disease was not so constant, since a thoracic dulness developed in five of the six animals in which it had not appeared at the time of treatment. The body temperature of these animals was not influenced by the treatment. See also a previous note. (*E.S.R.* 27, p. 289).

ON SALVARSAN IN TREATMENT OF THE PECTORAL FORM OF INFLUENZA (BRUSTSEUCHE) OF THE HORSE.—KETTNER. (*Berlin. Tier. Woch.*, 28 (1912). No. 26, pp. 855, 856).

This is a brief general review of the subject, in which the author calls attention to the beneficial results obtained from the use of this drug.

FORAGE POISON IN HORSES, CATTLE, AND MULES, SO-CALLED CEREBRO-SPINAL MENINGITIS AND COMMONLY TERMED "STAGGERS."—R. GRAHAM. (*Kentucky Sta. Bul.* 176, pp., 369-383, pls. 4).

An outbreak of forage poisoning traceable in a majority of cases to unsound corn, fodder, or fermented ensilage is said to have occurred in Kentucky during the fall and winter months of 1911-12, the heaviest loss being recorded in Kenton, Marion, Henderson, Boyle, Fayette, Warren, Scott, Mason, Marshall, Boone, Pulaski, Shelby, McCracken, Graves, Montgomery, Jefferson, and Fleming counties. Horses were attacked more than cattle, and cattle are more susceptible than mules.

The author states that the course of the disease was so varying that it may be described as occurring in two and perhaps three types, the acute or rapidly fatal; the subacute, which generally ends in death; and the chronic or milder form from which the animal under proper care and treatment may recover. It was often observed in cattle that the first animal affected in the herd died much sooner than the animals subsequently attacked. Some animals made a complete recovery from a mild or chronic form of disease only to succumb in a few days or a few weeks' time on a recontraction of the disease, showing that one attack confers no resistance to a second.

The acute form is said to have been more prevalent than any other, especially in horses and mules, the animals so affected succumbing in from two to three days from the time the first clinical symptoms were manifested. Animals were frequently found dead in the morning that evidenced no symptoms of ill-health on the previous day. Horses were attacked at work in the field and died within a few hours. It is stated that the peracute types of the disease have been mistaken for acute poisoning, numerous sample of stomach contents from such animals having been received at the station for examination. The symptoms in a majority of the acute cases were of from 12 to 72 hours standing, while symptoms of subacute cases were of three to nine days duration. The symptoms of the chronic form are mild, such as loss of appetite, dullness, slight inco-ordination in walking followed by recovery in two or three days.

In response to a set of questions sent out to veterinarians in the State, reports were received of the deaths of 100 of 134 cows affected, 465 of 612 horses, and 99 of 115 mules. Bacteriological examinations of the brains of several horses and cows gave negative results.

Two veterinarians reported slight success in treating the disease by intravenous injections of a solution of Pot. permanganate. The best method of combating it lies in prevention; mouldy, improperly cured, fermented, or damaged feed should not be fed to animals. It is stated that at the Elmendorf farm, one of the largest stock farms in this country, where the damaged corn was floated and only sound corn fed, no cases appeared.

F. E. P.

EASTERN COUNTIES VETERINARY MEDICAL SOCIETY.

A meeting was held on Thursday, Sept. 11th, at the Royal Aquarium at Yarmouth. The members first lunched together, after which a short business agenda was discussed. In the absence of the President, a Vice-president, Mr. W. L. Little, Yarmouth, was elected to the chair, and the other members attending were Messrs. W. Shipley, Yarmouth; E. Margaron, Swaffham; P. Turner, Ixworth; E. A. Hudson, Barrow; T. E. Anger, Wymondham; H. E. Wilkinson, Martham; A. Holl, New Buckenham; W. Waters, Blofield; J. F. Thurston, Fressingfield; Sidney Smith, sen., Lowestoft; G. Macintyre, Loddon; T. Love, Paston; J. Buckingham, Harleston; M. Bray, Docking; and Sydney Smith, jun., Lowestoft, hon. sec.; with, as visitors, Messrs. C. Boreham, Colchester; R. P. Turner, Ixworth; and W. Shipley, jun., Yarmouth.

Apologies for absence were received from the President, Mr. F. B. O. Taylor; Messrs. E. H. Leach, T. G. Heatley, F. L. Gooch, J. E. Kitchen, F. Morton Wallis, J. Hammond, sen., H. P. Standley, H. V. Low, J. Robertson, J. J. Scott, T. E. Barcham, H. F. Downe, D. S. Jack, H. Buckingham, J. Barr, A. F. Castle, and A. C. Holl. Prof. Hobday wired from Horning that a motor breakdown prevented his attending.

The Hon. Sec. said that 19 members failed to reply. He also announced that at the next meeting he should tender his resignation so that anybody who wished to take up the duties would have time to consider it. His resignation was due to several reasons, and having been Secretary for three years he thought that he had done his little bit for the Society.

Resignations. The Hon. Sec. read a letter from Mr. F. B. O. Taylor from Stratford-on-Avon, stating that as he had now left Norfolk he desired to resign, which he was sorry to do, as he had always enjoyed attending the meetings.

A similar letter was received from Mr. R. B. Palmer who had left North Walsham for Warwick.

Mr. W. SHIPLEY moved that a letter be sent to each gentleman expressing regret at their removal and conveying the good wishes of the members for their prosperity in the districts to which they had gone. He alluded to the fact that Mr. Taylor acted as Hon. Sec. of the Society for some years.

Mr. SIDNEY SMITH seconded, and this was carried unanimously.

Next Meeting. On the proposal of Mr. W. Shipley, seconded by Mr. E. Margaron, it was resolved to hold the next meeting at Norwich.

TUBERCULOSIS.

The Hon. Sec. announced that Mr. Sidney Villar had consented to read his paper at the next meeting.

A FEW CASES OF INTEREST.

By Mr. WILFRID WATERS, M.R.C.V.S., Blofield.

Gentlemen,—When our Secretary asked me to read a paper at this meeting, I decided to bring before your notice a few cases which had proved of special interest to me, in the hope that they might also appeal to you, and so be the means of evoking a good discussion.

FRACTURES IN FOALS AND COLTS.

A few years ago there appeared in *The Veterinary Record* several articles on the desirability of setting fractures in cattle, and having been very successful in the treatment of bovine fractures myself, I made up my mind that I would try my luck with foals or colts whenever I had the chance. I have had two such cases which I will describe.

Case I. On March 24th, 1910, I was called to see a valuable Shire filly foal by "Redlynch Forest King," three days old, suffering from a fractured humerus in the near fore leg, probably as a sequel to being stamped upon by the mare. Not being able to affix splints and bandages so high up in the leg, I simply applied a pitch plaster from the top of the scapula to the radius. All the straw in the box was replaced by chaff and the foal left there to take its chance. In about three or four weeks the foal began to use the broken limb, and eventually made a very good recovery, in fact the broken leg is now the better of the two, because unfortunately as a result of having to support all the weight for five or six weeks, the off fore leg became very pigeon-toed, and is so to this day. The filly, however, is able to work alright, and is likely to make a valuable brood mare.

Case II. A yearling filly, suffering from a fractured radius of the near fore, the sequel to a kick. I tried to set this case by means of splints and adhesive plaster bandages, but when the swelling in leg began to subside two or three days after, the bandages got loosened and slipped off. I then decided to apply a pitch plaster, as in the previous case, and the filly made an uneventful recovery, and was sold six months later for 21 guineas at a public auction.

A PECULIAR SHIVERER.

In Oct., 1910, a client purchased a three-year-old cart colt at a Michaelmas sale, and on its arrival home, worked it on the farm without shoes till Christmas time. Then when the land got harder, he sent it to the blacksmith to be shod, and was much surprised to have it returned, as the farrier found he could not lift his front feet up. I was called in to see the colt, and found that he could trot quite freely, could back without his tail quivering and seemed to all intents quite sound, until one tried to lift his fore feet up. Then he would begin to tremble all over and bear his whole weight on the limb you had hold of, so making it an impossibility to get off the ground. I tried him with a rope over his shoulder to no effect, and even put him into slings so that we might shoe him, but all to no avail. Finally we had to cast him to shoe, and this was done periodically every few months until he was sold a short time ago.

One of the peculiar features about this case is that the farrier always shod his hind feet without any trouble right to the end. Finally, I might add, that three or four months after I first saw him he gradually developed into a typical shiverer, i.e. lifting his tail and hind legs when made to back, so there is no question in my mind that the symptoms I have described were due to "shivering."

DISLOCATION OF THE CARPO-METACARPAL JOINT.

I was asked to see last April a bay pony which had got entangled in an iron hurdle, and had injured itself. Upon examination I was surprised to find that the knee joint was dislocated, the leg being bent at such an acute angle that it was almost impossible for the pony to get the toe of that limb on to the ground; and, figuratively speaking, one could hang one's hat on the proximal end of the metacarpus. I tried in vain for half-an-hour to reduce the dislocation, and at last went home to get my hobbles and chloroform apparatus. The pony was cast very easily, leaving the affected leg unhobbled, and much to my surprise, on examining the limb directly afterwards, found that the dislocation had reduced itself. The pony was naturally stiff for a few days, but made an uneventful recovery. My reason for recording this case is its rarity.

A PECULIAR CASE OF REDWORM.

In April, 1909, I received an urgent message one evening about 9 o'clock to see a mare presenting the following history, symptoms, etc. The subject was an eight-year-old cart mare in the pink of condition. She had been in regular work until 1 p.m. that day, and was only left in the stable that afternoon because she was not wanted. Nothing was noticed amiss with her at tea time, but she was found very ill at 9 o'clock.

Symptoms.—Temp. 105 F., pulse weak and over 100, brick red condition of conjunctival mucous membrane, violent purgation, cold perspiration; no apparent pain, but in a general state of collapse.

Prognosis.—Decidedly unfavourable.

Diagnosis.—I first thought she had ruptured a blood vessel, but of course the colour of the mucous membrane negated that. I also thought of "redworm," but the age and condition of the mare seemed to contra-indicate that, so beyond telling the owner that she was dying, I made no diagnosis. She gradually got weaker, and died at 5 a.m. next morning.

Post-mortem.—The intestine from beginning to end was nearly black with enteritis, the inside lining of the gut was literally covered with sclerostomata tetracantha, and finally there were three ruptures in the large colon, through each of which one could pass one's finger. These ruptures were evidently made direct by the redworm passing through the bowel wall, for in each rupture the worms were in close proximity to the edges of the wound.

Remarks.—This case is, I think, of great interest when one considers the age and condition of the mare, and also that she had been working within a few hours of death, in spite of the intense enteritis.

RANKNESS IN SPAYED SOWS.

During the past year I have been greatly annoyed at receiving complaints from farmers to the effect that a large proportion of sow pigs in certain litters that I had spayed had not been cut clean. A man always knows when he has left an ovary in a sow, but in the litter about which I received the complaint I felt positive that such was not the case. About three months ago I spayed five litters for one client, which pigs varied in age from five to seven weeks. A few days later I was asked to see them, and found that practically every sow had vulva greatly inflamed and looked fit for service, which was especially noticeable in the younger sows of only six weeks of age.

I was unable to account for the trouble, but told my client I would pay him £1 if he cared to kill any sow pig in the five litters and find an ovary. This offer was declined. Fortunately for me a few days later this client purchased two litters of pigs, which had been spayed by another veterinary surgeon previous to purchase. Within a week all the sow pigs of these two litters became affected in the same way. Being asked to advise in the matter once more, I enquired carefully as to their method of feeding, and found that directly they were taken off the sows—the time also that they were spayed—their diet consisted largely of wheat, which had been so heated and damaged, as a result of last year's bad harvest, that it was valueless to sell, and so was used as pigs' food. Being suspicious of this article of diet, I went round to all my clients who had made complaints and found that in every case their pigs had been fed on damaged corn, principally wheat.

I should like to ask the members present if they have ever had any similar trouble, and also if they can explain, physiologically, the reason for damaged wheat affecting the vulva in this way. Personally, I think there seems a great similarity between this case and

that of laminitis in horses caused by eating too much wheat.

TORSION OF THE UTERUS IN A MARE.

On May 9th, 1913, at 6 p.m., I received an urgent message to attend a mare which was unable to foal. On my arrival I learned that the mare showed labour pains when on the plough at 9 o'clock that morning, and so was brought home. Much to owner's surprise, although her labour pains kept coming on every few minutes, they never seemed sharp enough to cause her to strain and so burst her water bladder. I found the mare's temperature and pulse to be about normal, and on introducing my hand within the vagina everything seemed natural, although there was no appearance of foaling, the os uteri being quite closed. The mare kept walking round and round the box, then dropping to the ground in pain, only to jump up again almost directly without showing any tendency to strain. I was inclined at first to regard it as a case of colic, but the bowels seemed quite active, and the mare dunged and staled regularly about every half hour. I prescribed a laxative drench, but refrained from sedatives, as I did not wish to retard the labour pains.

These symptoms went on unceasingly from 8 a.m. on May 9th to 6 p.m. on May 11th, and although at times the mare suffered fearful agony and was white with foam, she never showed any tendency to strain.

At 6 p.m. on May 11th I received another urgent message, and found that she was now straining violently and passing a few drops of liquor amnii. On passing my right hand within the vagina I found the os uteri to be partly opened, but to my surprise I was unable to effect an entrance to the uterus.

I now inserted my left hand and found that directly I passed through the os, if I turned my hand sharply to the right, I was able to enter the womb and find the foal tucked into the right flank of mare. Of course, I now saw that I had a case of torsion of the womb to deal with, so inserting my left arm again I tried to work the womb back into its correct position by moving my arm towards the left flank. After a time I was able to straighten the womb a little, and with my left hand managed to rope the fore legs and head of foal, and when these were pulled steadily towards the left side of the mare, we were able to deliver the foal and right the uterus at the same time.

The mare was naturally very weak and almost in a state of collapse, so we gave her half a pint of neat whiskey, rubbed her up, and rubbed her all over with embrocation. Next day she had a temperature of 104 F., but showed no symptoms of metritis. On the following day her temperature dropped almost to normal, and she passed out of my hands on the 14th.

Remarks.—I consider I was very fortunate in being able to foal this mare so easily—it only took about half an hour—as I quite expected I should have had to resort to chloroform, and perhaps roll her down hill. I should like to draw attention to the fact that, in spite of her being in labour 58 hours, she had no inflammation of the womb or uterine passages. This was undoubtedly due to the fact that she did not strain at all throughout her long period of labour.

HODGKIN'S DISEASE IN A DOG.

On August 13th last, I was requested to see an aged Scotch terrier, as the owner thought he was suffering from goitre. I was surprised to find about 15 tumours under his throat in the region of the larynx, which tumours varied in size from a filbert to a hen's egg, were quite painless, and but for pressing on the larynx seemed likely to cause no inconvenience. The temperature was normal, appetite good, but there was a slight cough, and on examining the mouth I found the tonsils were greatly inflamed.

Diagnosis. First I assured the owner it was not goitre, and then had to admit I could not give the complaint a name, but thought it was some bacterial infection which had reached the glands of the throat by means of the tonsils; consequently I prescribed liberal doses of Pot. iod. internally and liniments externally.

Four days after the first visit two more swellings appeared, one on the point of each shoulder. As these tumours did not appear to alter in size or consistence, on Aug. 26th I asked Mr. Wilkinson, of Martham, to see him with me. As a result of this consultation we were at first inclined to think it a case of melanosis, but the inflamed condition of tonsils negated that, so we left the diagnosis an open question and prescribed a course of arsenic as a change.

On Sept. 2nd, as dog had made no progress and other swellings had made their appearances, one beneath the tongue and one near the penis, the owner requested me to poison him. I was not allowed to make an exhumation post-mortem, but permitted to remove two or three tumours for examination. One of these I sent to London, and had a report from Mr. Sheather to the effect that the so-called tumour was an enlarged lymphatic gland, and that from the symptoms I had described he had no doubt it was a case of Hodgkin's disease.

On looking up this complaint in my pathology notes I find it is a disease in which many, or may be, the whole of the lymphatic glands of the body are greatly enlarged, the cause of condition being obscure. The enlargement appears to be due to the addition of lymphocyte cells to the gland substance, and contrary to what one might expect there is no increase in the number of leucocytes formed, and there is usually a more or less marked anaemia resulting in death.

DISCUSSION.

The CHAIRMAN said these notes were of much interest and the members were all obliged to Mr. Waters. Fractures especially interested him, because a good many people, himself included, when called to fractures in colts or other animals slaughtered too soon, instead of giving them a trial. He remembered a steer bought at market, and the owner on getting it home found it had a broken metacarpal bone. It was set in plaster of Paris and had done so remarkably well that he was encouraged to try other cases.

Shivering in the fore leg was very rare and cases of the sort appeared quite mysterious. The case of redworm was very singular, but Mr. Waters did not say if there had been any peritonitis. If there was peritonitis present that was the cause of death. If there was no peritonitis the rupture did not count to any extent so far as the death of the animal was concerned. With these ruptures, especially as they were not very large, the animal would not have died without peritonitis. The sclerostomum armatus weakened the bowel for more than the tetracanthus. The armatus was very destructive toward its hosts, perforating the bowel or weakening it so that it was very liable to rupture.

He did not castrate many sows, and this year was the first time he had had any complaint of sows coming into season after the operation. He did them properly but ceased to worry about it after he heard that the Suffolk gentlemen who were experts were having the same trouble.

The case of torsion struck him as being rather one of displacement possibly through one of the ligaments becoming ruptured or elongated and allowing the womb to come to the flank.

Mr. W. SHIPLEY said he wished to congratulate Mr. Waters on his interesting notes because he was prepared to admit some of his failures, which men did not often do. At the same time Mr. Watson had related cases that were neither stupid nor trivial. The steer to which the Chairman referred which fractured a leg he

believed would be one of the best seen at the Christmas sale. When the farmer showed it to him two or three months ago he did not recognise which leg was broken. It showed the possibility of setting fractures in certain cases with success. Shivering in the fore legs was very interesting, and he wondered whether it was a positive case of shivering, and if so it should have been kept under observation, as their knowledge of shivering at the time was limited. He had always presumed shivering was progressive from the posterior portion of the spinal cord anteriorly, but Mr. Waters' case commenced in the fore legs and eventually developed in the hind legs. Dr. McCall, of Glasgow, had made numerous experiments and taken sections of the spinal cord, with no very great results, and a condition of this kind might be helpful to him. It might be that while looking for the seat of shivering in the cord in the lumbar region they ought to look right away up to the motor sections of the brain. He once examined a stallion that had decisive stringhalt in one fore leg which was very peculiar, and though he felt certain, his opinion was not supported by other people. When led a little way he suddenly brought up his fore-leg, jammed it on the ground and went on again comfortably.

The question of redworm should receive more attention. Many cases of acute enteritis in five or six year old horses might be caused by redworm, though they did not always appreciate it. In many cases where death occurred from redworm there was supposed to be septic poisoning through absorption of matter due to ulceration or excoriation of the mucous membrane of the intestines.

He could not understand why feeding young sows on heated wheat should produce the condition described, but it was quite a reasonable suggestion. In Suffolk there had been a certain amount of reflection cast on veterinary surgeons who, it was thought, had not done the spaying properly. Some veterinary surgeons had suggested that there was some sort of septic vaginitis. They ought not to be content, and should go further to find out some other cause why heated wheat acted in this way. He suggested the Chairman should relate a case of torsion of the uterus in which he assisted him, and in which the result was satisfactory, because it showed a man working single-handed in a difficult case might succeed with a little help.

The CHAIRMAN said a man sent for him to see a mare which he said was foaling, but he thought it was colic. Next day the man sent again and said she had more pain. He did not examine her, as he did not suspect foaling. The following day he was told she was down and straining badly. He examined per vaginam, and found it very difficult to get his fingers into the womb. Mr. Shipley assisted him, and when they got their hands in the first thing they grasped was a foot. After a time, by rolling her they managed to get this foot into the opening and get a rope on to it. By holding on to this and rolling her from side to side they got the rope on to both legs and the jaw. Finally they managed to right the womb, the os became larger, until they got some portion of the foal out by traction, and it was delivered. The mare was under chloroform, and she was ill for some days, but she made a good recovery.

Mr. SHIPLEY said one of the most important things was that they cast the mare and chloroformed her. While manipulating the outside of her abdomen they were able to push the fetus and uterus more or less into proper position. The result was most successful, for he never anticipated the mare would live, but she did, and was afterwards served by a stallion and sold. It was a complete twist. He once went to a cow with a twist in the neck of the uterus, and by casting her delivered the calf. The following year he was called to the cow, but this time could not untwist the neck of the uterus. He could do nothing, and therefore cut the aorta, but

even when she was dead they were absolutely unable to move the uterus.

Mr. THURSTON said he saw in *The Record* some years ago a report of a lawsuit brought on the Continent by the owner of some pigs which became rank after spaying, against the castrator. Needless to say he lost his case. The pigs had been fed on sprouted corn. He had his attention called to some pigs on which he had operated during the season, and he found in every case they had been fed on sprouted grain. He was once called to a heifer with a fractured leg, which he put in plaster and it mended. This particular animal had, in all, four fractures. Only one leg was unfractured, while one leg was fractured twice.

Mr. HUDSON said he had got into the same trouble as Mr. Waters with regard to sow pigs. The owner put the hog with them to see if they would breed, but it did not come off. Many pigs castrated, both by himself and other people, had been swollen up behind this year, and they had generally been fed with over-heated barley or wheat, or corn spoiled in last year's bad harvest. In regard to torsion of the womb, he was called to a cow that had been uneasy from 9 a.m. to 9 p.m., but showed no sign of calving. He found she had torsion of the neck of the uterus. He got his fingers into the uterus, tied her legs, rolled her about, and had a man pushing on her body, eventually the uterus twisted round, and they got the calf. He had to go and syringe out the cow, which made a good recovery. Two years ago he went to a Shire mare, due to foal on April 30th. She had been at work, and had made every preparation for foaling, but nothing came forward and she had no pains. She was kept at work till July 25th, when she had decreased in size and lost flesh a little. He was sent for on July 25th and found the foal dead. It had probably been dead two months, and was putrid. He syringed her out, and she made an uneventful recovery. Two years later she died from azoturia. He never knew a mare to carry a dead foal so long. He had made post-mortems on horses from the Fen districts, mostly in poor condition, which had been transferred to highland farms where they were put on corn, and in several cases died off in a few hours; and he frequently found them full of red worms.

Mr. BRAY said he had a case of torsion in a heifer. He got his hand in and felt the grooves of the womb going in a definite twist, but it evidently righted itself suddenly, and he delivered the calf. He thought the heifer was all right, but she collapsed the same night, and as he never saw her again he did not know the cause of death. As to setting fractures, he found ordinary tar rope an excellent thing. He bound it round and round over tow, which enabled him to keep it to the shape of the leg. Last week he had a case of a fractured jaw, and it was a difficult thing to know how to put the splints on. He used a pitch plaster and cut a leather splint to fix it on outside, but the owner got tired of it in three days, though he said it would have to remain five weeks. The animal was shot, and he saw it after death. It was a compound fracture completely across, and exactly at the bend.

The CHAIRMAN said that some members, when speaking of the twisting of the uterus, or torsion, seemed under the impression it was a complete twist, but that was very rare. If it was a complete twist it would be absolutely impossible to untwist. It was a half, or at most a three-quarter twist. If when putting in one's hand the grooves were followed and then a handkerchief was twisted to correspond, it would be found to be a half-turn, but that was quite sufficient to stop a foal coming. He was called to a marsh farm to set the fracture of a cow's leg. He put on a plaster of Paris bandage, strengthened with splints, and although the cow before he put on the bandage ran about on three legs, she put her whole weight on the damaged leg as soon as

he had bandaged it; the whole thing went almost double, and nothing he could do would alter it. In the end the cow had to be destroyed. Detailing a case of quittor, for which he said Mr Shipley's treatment was removal of the cartilage, injections had been tried, but seemed of no use. The animal was cast and they stripped the horn, found the diseased cartilage, removed it, and in scraping out the wound with a curette there was a slip through the tissues into the joint, and at once the wound was flooded with synovia. The wound was flushed with perchloride, plugged with oil of cloves and cotton wool, and bandaged. At the end of three days the bandage was removed and the wound seemed healthy, but there was a little coagulated synovia. It was again bandaged, and at the end of another three days no synovia was found, and the hole seemed to have closed up. The animal made a good recovery, and had no bandage on. He hoped in a day or two it would be turned out to marsh.

Mr. WATERS, replying on the discussion, said he omitted to state in the case of redworm that peritonitis was the ultimate cause of death. The ruptures were so large that there was a quantity of fluid in the peritoneum, which was bound to set up peritonitis. In the case of torsion he would admit it was not a very bad twist, but when a mare had labour pains for 50 hours and no amniotic fluid passed, it went to prove there was a very distinct twist. Fractures in cattle were very easy to set, and it was a great omission if they did not set fractures in the case of bullocks under two years old not fit for slaughter, unless the fracture were compound. He had set nine or ten cases in his small way in the last four years and every one did exceedingly well. The animals might go a little stiff, but that was all, and the owners fattened them. As to spayed sows, he felt rather proud when everybody agreed it was due to heated grain. But the question should be followed up for its physiological interest. He had been asked what the treatment was for Hodgkins disease in the dog. His chief reason for mentioning this was that he wanted to know himself, but apparently the members were unable to tell him. Mr. Little, who examined one of these glands before the meeting, told him that arsenic was the treatment for it, but he did not know whether he would see any more cases to try it. For setting fractures he used to make a pitch plaster of resin and pitch, but now he bought the sticks from the chemist, broke them up, put them into something over the fire to melt, smeared all over the affected limb, and covered it with tow making a thick plaster all over it. He was always careful to have the patient put into a box where there was no straw and only chaff. He once set a three-year-old bullock's fractured metacarpus with plaster and splints, and it did well. Mr. Little mentioned a case of opening the joint in quittor. Seven or eight months ago he was operating on a mare for the same thing, and he was about to make the last cut as the mare was just coming round from the chloroform, when she gave a jerk and the knife slipped through and let out some synovia. He did the same thing as Mr. Little, plugged it with oil of cloves and cotton wool and bandaged it. The accident did not seem to make any difference, and the quittor did far better than if it had not been opened.

Mr. SHIPLEY moved a vote of thanks to Mr. Waters for contributing his interesting paper.

The Hon. SEC. seconded, and Mr. Waters, in reply, said he was very glad his paper had been appreciated.

The Hon. SEC. proposed a vote of thanks to the Chairman who, he said, was in the chair for the first time, and he had conducted the business admirably.

Mr. THURSTON seconded, and the Chairman briefly replied.

ANNUAL REPORT OF VETERINARY SECTION, PUBLIC HEALTH DEPARTMENT, MANCHESTER, 1912. MILK AND TUBERCULOSIS. [ABSTRACT.]

This report forms part of the Report on the Health of the City of Manchester, by James A. Niven, M.A., M.B., LL.D. It is not absorbed and put out of sight as in the reports of a few of the northern cities.

These Manchester cowsheds number 229, on 118 farmsteads, having a total housing capacity for approximately 2,000 cows.

The general standard of cleanliness and supervision has been fairly well maintained, allowing for the ordinary lapses which are bound to occur in any business.

The total number of inspections of City cows during the year was 7,981. A careful enumeration of the cows housed was not made during the year. The last time this was done the total number was found to be 1943. The total will now be somewhat less.

During the past year there have been many factors to disturb the general business of dairying. The price of cows rose to an abnormal height; it would be no exaggeration to say that the cost of good-class dairy cows had risen not less than £3 or £4 per head, and the cost of all foodstuffs had risen correspondingly. The supply of dairy cows was already limited enough to make matters difficult, when the outbreak of foot-and-mouth disease appeared, bringing about an enormous dislocation of trade, and one of our greatest sources of supply was entirely cut off. How serious this has been can only be appreciated by those who come intimately in contact with the dairy farmers, whose business is carried on within the boundaries of the City, for, practically speaking, there is no breeding of cattle within our area. The system in vogue is usually described as the "one note" system, the practice being to buy good cows at the height of profit, milk them as long as the milking period lasts—where cows are left barren the period of lactation is as a general rule considerably prolonged—finally the cow is fattened and sold to the butcher. The conditions are entirely unlike those on country farms. Economically the system is bad. It denudes the bovine population of many excellent animals whose services would be extremely valuable for breeding purposes. On the other hand the system affords considerable protection against tuberculosis, inasmuch as the population is continually being changed and refreshed by carefully-selected, healthy young cows, which, being well housed and well fed, show little tendency to develop disease. But there must be a plentiful supply of the class of cow required, and they must be obtainable at a reasonable price. This has not been the case in the past year, and the result is that many men have been compelled to purchase animals of a class that for years I have done my best to prevent, and I am compelled to accept animals of a class I object to very much.

It will thus be apparent that the necessity for rigid and repeated inspection is greater now than it has been for some years past, and it will be impossible to maintain the high standard of freedom from infection in the milk supply produced at our doors, unless adequate assistance is provided to enable an efficient supervision to be exercised.

During the year, three cases of tuberculosis of the udder were found in the cows within the City. No case was of such a character as to attract the suspicions of the owners. All three cows were killed; two of the carcasses were passed for food, and the third was condemned. In addition, 15 cows were removed from the City because they were, in my opinion, suffering from tuberculosis in one or other of its many forms, other than disease of the udder.

TUBERCULOUS MILK.

During the year, 576 samples of milk have been collected by the Food and Drug Inspectors in connection with tuberculosis. Of this number, 555 were collected at the railway stations, and the remainder from carts coming in by road. The number of farmers represented in the total is 484.

County.	T. Milk.	Per cent.
Caeshire	294	41
Derbyshire	75	3
Staffordshire	49	5
Lancashire	50	3
Shropshire	3	1
Yorkshire	10	1

Westmorland, Lincolnshire, and Wiltshire one each, and none of these sent tuberculous milk.

Table showing number of farmers' milk tested during the year, and the number found to cause tuberculosis in the experimental animals.

Year.	Tested.	Tuber- culous.	Year.	Tested.	Tuber- culous.
1901	272	27	1908	289	27
1902	345	36	1909	535	31
1903	329	45	1910	468	30
1904	318	29	1911	494	51
1905	565	47	1912	484	54
1906	542	42			
1907	562	38	Total	5203	457

The percentage of farmers sending tuberculous milk was 11.15, the highest figure during the past 12 years, with the exception of the year 1903. In fact since the 1909, when we reached our lowest figure (5.79 per cent.) the rise has been extraordinary; the most marked rise being in the figures for the year 1911.

The continued rise is disturbing, and, as far as I can see, very difficult of explanation.

I ventured in last year's report to suggest that the summer of 1910 had had disastrous effects upon the health of cattle, inasmuch as they were all subjected more or less to conditions of insufficiency of food, and much of the food available was of inferior quality, so far as its nutrient properties were concerned. Despite many statements to the contrary, I am still of opinion that the results of that season were far more serious than many may suppose, and that they will be felt for some time to come.

If the rise so marked during the past two years in the amount of tuberculous milk, and, presumably, the amount of bovine tuberculosis, were due solely to the relaxation of vigilance on the part of the stock-keeper, it would not be difficult for men experienced in the inspection of cattle, and in the assessment of the character of the individuals concerned, to detect some evidence of it on the farms. So far I find no evidence at all to justify any such accusation, indeed I may say that I have only seen one really well-marked case of tuberculosis of the udder during the whole year. The general condition of the cattle is apparently good, and, in most cases, even to the skilled observer, a careful examination of the cows at pasture would show nothing. I note that such a shrewd observer as Prof. Delpeine, whose opinion on these matters has to be treated with the greatest respect, is inclined to think that what may be termed the period of retrogression is due in some part to the carelessness of farmers, induced by the promise of protective legislation, or, rather, legislation which appears protective—the promise to pay compensation for diseased animals. I wish I could agree to this supposition; it would be a very simple explanation, and would merely require for its determination a strengthening of the measures in force. Un-

fortunately, the actual evidence which I have obtained is that they do not welcome legislation at all, and if the experiences gained immediately prior to the Tuberculosis Order, 1913, coming into force are any indication of the attitude of the dairy farmers, then the conclusion forced upon one is the exact opposite. For the six months prior to this enactment coming into effect, cows to which the very slightest suspicion could be directed, were being removed from very many farms. The farmer seldom, or never, welcomes the inquisitorial inspector, be he medical, veterinary, or police, but he would much rather see either of the first two on his farm than the latter.

Where actually the true cause for the increase lies is impossible to say, but one may draw deductions by some facts made evident by an examination of the material at hand. In the first place, I have been carefully examining the records of the past years, and I find no year in which so many very young cows were found suffering tuberculosis of the udder. Of the 44 cows found during the year suffering from tubercular disease of the udder, no less than 16 had had not more than two calves, and of these nine were heifers which had only had one calf. The last figure is particularly striking, for, so far as our previous records are concerned, in no three years have we had as many young animals in the first lactation period proved to be suffering from disease of the udder.

I cannot admit that there has ever been any less care taken in the examination of heifers than aged cows on the grounds that the young animals are less likely to be the subject of disease of the udder than older animals. Less time is required for the examination it is true, as the udder is only small and partially developed; but even slight lesions are much more easily detected, and I have always regarded the careful inspection of the recruits as a matter of the highest importance.

Most young bovines commence the duties of maternity long before maturity, and, as a matter of actual practical experience, all other things being equal, if the highest milking powers are to be developed, the function of calf-bearing must not be unduly delayed, and, as will also be evident, it is essential that milking cattle should be brought into profit as soon as is compatible with sound principles of dairying.

On the other hand, if these young animals have to suffer during their period of adolescence from lack of good food, and live on the great majority of farms, in infective surroundings—for no greater indictment could be brought against farmers than the awful conditions which too frequently surround the rearing of calves—then it would appear that every essential has been provided for the unrestricted development of tuberculosis in the young animals.

It may be that there are many other factors of which we are not cognisant which play an important part in the rise in the amount of tuberculosis. As I have already stated, I have seen no evidence of neglect, nor are there many "wasters" about, but I have certainly had the impression that latterly there have been more cases of suspicious conditions simulating tuberculosis, the pulmonary lesions being, as usual, most marked.

Another factor which may also play an important part, is the indiscriminate slaughter of young calves in such enormous numbers for veal. I do not refer to it in regard to their fitness for slaughter, or otherwise, but from the economic standpoint that such wholesale slaughter in dairy districts is not sound policy. I know that it will be stated immediately that calf-rearing is not profitable. With that I have nothing to do, but to point out that a very large percentage of the female calves slaughtered are the offspring of excellent dairy animals of a reasonably good milking capacity, and such as would most probably grow up into good useful dairy animals themselves. The effects of this policy will be felt by the farmers themselves, even if it

is not being felt now. I have referred in the earlier portion of my report to the abnormally high price of stock for the past two years. I don't think that an abnormally increased demand is much responsible as the fact that the supply is inadequate, and, in my opinion, nothing could be more disastrous than a shortage of good, well-bred, healthy young stock to replenish herds frequently; in fact, the supply should exceed the demand to produce the ideal conditions.

During the year 44 cows were found to be suffering from tuberculosis of the udder, and of these 43 were slaughtered. Of these the carcasses of eight were passed as fit for food, four partially, and the remaining 31 were condemned as unfit for food.

Eleven notifications were received during the year, but in not a single case was the subject of notification found to be suffering from tuberculosis of the udder. In nine cases, however, the cows were found to be suffering from pulmonary tuberculosis, and were slaughtered, and in every case the diagnosis was confirmed at post-mortem.

It should be stated that the diagnosis of early tuberculosis of the udder presents increasing difficulties, requiring the very greatest care in the manipulation of the udder itself. The discovery of the tubercle bacillus microscopically in such a high percentage of our cases by Professor Delépine has been of the greatest value both to the farmers concerned, to whom the saving of time means a considerable saving of money, and also to us, as it has enabled us to dispose finally of our cases much more quickly than was formerly the case.

One case occurred during the year which illustrated some of the difficulties in finding the actual cow producing the infective milk. A sample of mixed milk was taken in the usual way at the railway station, and was reported by Professor Delépine as having been found to cause tuberculosis in the inoculated animals. The farm was visited by me, and 46 cows were carefully examined. The herd was an excellent one, the cows, without exception, being all big, fine, healthy-looking animals, with no appearance of disease among them.

I found one cow presenting a very slight lesion of no decided character in one quarter of her udder, and from this cow a sample was obtained; and I also took a sample of milk from a cow which presented a somewhat irregular udder, with no definite lesion. Both these samples were submitted to the biological test by Prof. Delépine, and he reported both as negative.

In the meantime a further mixed sample was obtained and submitted for examination, and again Professor Delépine reported that the mixed milk was tuberculous. I again visited the farm, and could find still no evidence, except the cow first referred to; she had been moved to another stall in the cowshed, and this time the lesion appeared most prominent in another quarter, so a sample was taken from this quarter, and submitted again for examination, and again with negative results. On this occasion I took a mixed control from the whole herd myself, as there was just a possibility that, owing to there being so many others of the same name in the district, a mistake in the identity of the farm had been made. That this was not so was proved when Prof. Delépine reported my control same to be tuberculous.

I therefore again visited the farm, and on this occasion divided the whole herd into nine groups, and took a mixed sample from each, and each of these nine group controls was found free from infection; but in the interval between this last visit and the previous one the roan cow from which I had already taken two samples had been sold. That no other cow had been sold I was quite certain, because I had the whole herd under observation so much that I could have told almost to a certainty if any cow had been changed, and, further, during the greater part of the time this investigation was being carried out, the Prohibition of Movement

Order was in force on account of some outbreaks of foot-and-mouth disease in the area.

It is remarkable that all the mixed samples taken while this particular cow was in the herd should prove tuberculous, and that the infection should cease immediately she was removed; and yet the two special samples taken direct from her yielded no result. Further mixed samples taken from the milk supplied from this farm remain free from infection. It was unfortunate that we lost sight of this cow, but it was not possible to make the farmer keep her, however interesting she might have proved scientifically; the financial aspect appealed to him, and he could see that she was the only cow in the herd of which I had the slightest suspicion.

The total number of country cows examined during the year is 3203. From the particulars supplied by the farmers, 399 of whom replied to our queries, we find that on these farms there were 7975 cows, or an average of 19.98 cows per farm; or if the general figures are averaged, it will be found that the milk of nearly 10,000 cows was tested during the year.

I should again like to place on record the valuable assistance rendered to Manchester by Dr. Meredith Young, the Medical Officer for the County of Chester. His activity in the work of improving the conditions of cattle housing in the County is unabated.

Tuberculin Test.

The table attached shows the results from October, 1904, to November, 1912, obtained in keeping a large herd free from tuberculosis. The work is an unqualified success. The development of the practice of rearing young stock sufficient to replenish the herd, is being pushed on. The results are most encouraging, the young stock have done well, and we shall soon have sufficient to be entirely self-supporting. The milk produced by this herd is supplied to Monsall Fever Hospital, Clayton Hospital, and Baguley Sanatorium.

Date.	MILKING HERD.		PROBATIONARY.†		TOTAL.	
	Tested	Re-ac't'd	Tested	Re-ac't'd	Tested	Passed.
1904, Oct.	85	—	18	4	103	97
1905, April	87	—	15	4	102	98
" Oct.	84	—	14	5	98	93
1906, April	91	—	16	6	107	101
" Oct.	73	1	28	7	102	94
1907, April	95	—	27	19	132	103
" Oct.	81	—	28	13	119	96
1908, April	88	—	33	25	122	96
" Oct.	91	1	32	16	123	107
1909, April	88	2	31	15	119	101
" Oct.	93	—	22	14	115	107
1910, April	87	—	14	8	104	93
" Oct.	91	1	16	9	107	98
1911, April	83	1	19	8	102	94
" Nov.	85	1	37	34	122	88
1912, April	89	—	21	12	110	101
" Nov.	89	1	43	39	91	128

* Animals having been previously tested.

† Animals purchased subject to passing the test.

In only three animals was the reaction tabled as "Doubtful," and in one of these bronchitis developed during the test.

J. W. BRITTLEBANK, M.R.C.V.S., D.V.S.M.

The Southdown.—These, the oldest of British breeds, is essentially a native of Sussex, but from time immemorial it has always been the favourite breed with great landowners, who have proved beyond question that it will thrive and retain its inherent qualities as the best mutton-producer in the world, even when far removed from the Sussex Downs.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders † (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered. *
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
Gr. BRITAIN.													
Week ended Sep. 13	3		4				1	1	22	33		30	268
Corresponding week in	1912	7	8		2	62	8	11	16	18	1	43	840
	1911	13	14				7	12			2	37	394
	1910		14	14			13	37			1	18	305
Total for 37 weeks, 1913	390		430				119	301	1952	3924	132	1790	23834
Corresponding period in	1912	583	662		77	563	134	247	2381	5139	175	2290	30080
	1911	612	763		8	425	145	338			309	1840	21517
	1910		1041	1249	2	15	270	818			344	1037	9472

† Counties affected, animals attacked : London 1.

Board of Agriculture and Fisheries, Sept. 16, 1913.

IRELAND. Week ended Sep. 13	...	...	...	...	...	...	...	Outbreaks 1	7	...	4
Corresponding Week in	1912	...	...	1	13	...	...	...	1	1	6
	1911	...	...	...	...	...	...	1	4	5	30
	1910	...	...	...	...	...	...	...	6	...	...
Total for 37 weeks, 1913	...	...	...	...	...	...	...	102	383	113	685
Corresponding period in	1912	...	3	3	27	260	...	53	264	180	1499
	1911	...	7	14	...	...	2	51	258	97	1617
	1910	...	5	8	...	...	1	56	355	73	1707

* These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Sept. 15, 1913

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Salvarsan in the Horse and Dog.

J. D. E. Holmes reports ("Memoirs of the Department of Agriculture in India, 1913." Vol. I. No. 2), his experiences in the treatment of surra in the horse and dog by salvarsan.

They are summarised as follows in *The Tropical Veterinary Bulletin*.

HORSE. In preliminary experiments the toxic dose by intravenous injection was ascertained approximately, and the effects of both small and full subtoxic doses were gauged by the period for which the peripheral circulation remained free from trypanosomes after treatment.

In the first series of experiments 17 animals were given a single dose of the drug. Of these, 3 recovered, 11 had relapses, and 3 died. The dose administered varied from '0014 to '0094 grammes per pound body-weight.

In the second series of experiments three injections were given at intervals of one day. Only two animals were treated in this manner; in one there was a relapse and the other remained under observation for ten months without a reappearance of the trypanosomes being recorded.

Two animals received three injections at intervals of one week. In both cases there was a relapse. Four animals were given, in addition to the three injections of salvarsan, one dose of arsenic *in bolus*, the dose being one gramme. In none of these was a cure effected.

The author's conclusions may be summarised as follows:—

(1) The toxic dose of salvarsan for the horse administered intravenously is approximately '01 gramme per

pound body-weight, but individual susceptibility exists.

(2) An intravenous injection of salvarsan is followed by a disappearance of trypanosomes from the peripheral circulation for periods varying from 6 to 36 days. The relationship between the dose of the drug, and the period of absence of the trypanosomes is neither regular nor definite.

(3) In three cases a single dose effected a cure.

(4) By repeated administration a tolerance to the drug is established.

(5) Three intravenous injections did not give results superior to those obtained by a single injection.

(6) The administration of a large dose of arsenious oxide followed 24 hours later by an intravenous injection of salvarsan produced no better results than a single dose of either.

DOG. The difficulties in the way of treating dogs for surra lie in the facts that the dog is particularly susceptible to the disease, and also very intolerant of the drugs which have given the most encouraging results in other species.

Twenty-nine dogs were given a single injection of salvarsan in doses varying from '006 to '063 grammes per pound body-weight.

Of these two remained under observation for 370 days without a relapse. Eleven died in periods varying from a day to several weeks after treatment, but for the most part trypanosomes were absent from the circulation during that time. In four cases there were relapses, and the remainder of the dogs had to be destroyed owing to their having come into contact with a dog suspected of rabies.

In all these cases the drug was administered in an 0.5 per cent. solution.

In six instances the drug was used in a 1 in 250 solution, but all the dogs died within 48 hours after the injections were given.

Six dogs received injections at intervals of a day, but either death or relapse occurred in each case.

Of two dogs which received three injections at intervals of a week one recovered and one died. Similar results attended the experiments when only two injections were given at a similar interval.

Three dogs were given a single subcutaneous injection, but none recovered. It was found that subcutaneous injection produced painful swellings which either burst or were absorbed.

Intramuscular injection proved successful in one case and failed in another.

The following conclusions are drawn :—

(1) The toxic dose of salvarsan for the dog is about .025 gramme per pound body-weight, and .02 gramme is fairly well tolerated. More dilute solutions produce more markedly toxic symptoms than more concentrated ones.

(2) An intravenous injection may cause the disappearance of the trypanosomes from the circulation for periods varying from 20 to 97 days.

(3) Repeated injections do not give better results than a single administration of the drug.

(4) Subcutaneous and intramuscular injections are not well borne. Three rabbits which were given doses of .000042 to .000064 gramme all recovered.

[Surra does not immediately concern English practitioners, but some portion of this work upon salvarsan is capable of a wider application.—Ed.]

ANNUAL REPORT OF THE CIVIL VETERINARY DEPARTMENT UNITED PROVINCES, 1912-13. [ABSTRACT].

Mr. E. W. Oliver held charge of the department up to Feb. 21st, 1913, when he proceeded on leave. He also carried out the duties of Second Superintendent in addition to his own work from April 19th to Oct. 20th during the absence of Mr. C. W. Wilson on leave.

Mr. C. W. Wilson carried out the duties of Second Superintendent from April 1st to 18th, and from Oct. 21st to the end of the year. He also officiated as Superintendent from Feb. 21st, 1913, to the end of the year in addition to his own duties.

Mr. Oliver was on Tour for 133 days and travelled 555 miles by road and 18,268 miles by rail. He toured in 21 districts supervising the work of the veterinary inspectors and the district board veterinary assistants. Nearly all the veterinary hospitals and dispensaries were visited and sites for the erection of others were selected, while a great deal of travelling was undertaken to inspect various stallion stands and stud bulls maintained by local bodies and others. It was often found necessary to visit and spend some time at the Moradabad stallion depot for inspection and selection of sires for district work, and constant supervision of the bull-rearing farm at Lakhimpur has entailed a great deal of travelling. Land for another cattle farm at Madhuri Kund in Muttra district has also been surveyed with the object of acquiring a suitable site for this purpose. Much touring has, as usual, been found necessary in connection with the Glanders, Farcy, Surra, and Dourine Acts, and in supervising sheep breeding operations in various localities. Mr. Oliver personally attended and carried out investigation and research in twenty outbreaks of disease, and wherever possible directed inoculations and treatment. He visited Bombay for the purchase of stallions and inspected various tonga lines in the provinces. During these tours district officers, landowners, managers of courts of wards, and others interested in agricultural stock were met and

conferred with, and meetings of committees dealing with the question of improving the conditions of dairy produce were attended and expert advice given.

Mr. C. W. Wilson was on tour for 82 days during which time he toured in 24 districts and travelled 6678 miles by rail and 350 miles by road. He inspected the majority of the hospitals and dispensaries in his circle, all the stallion stands, and attended cattle fairs at Ballia, Dewa, Khairabad, Sardhwa, Attarra, Etawah, Hardoi, and Saharanpur acting as judge or member of committee. He inspected stud bulls the property of courts of wards, and advised special managers regarding cattle breeding and maintenance of stud animals. He personally attended outbreaks of cattle disease in 13 districts, and supervised the inoculation work. A considerable amount of his time was spent in checking inoculation returns, specially in those districts where opposition to inoculation had previously been met with. He was deputed to select for district boards, court of wards, and private persons, stud bulls from the Hissar cattle farm. The sheep flocks in his circle were inspected and advice given to those in whose hands the care of the flocks is entrusted. He attended the outbreak of foot-and-mouth disease at the Manjhra cattle farm and paid periodical visits of inspections. He personally accompanied the foot-and-mouth disease enquiry commission to village Manaura in the Jalaun district to demonstrate disease *in situ*, and attended the examinations of final year students at Punjab Veterinary College, Lahore, as a member of the board of examiners.

Veterinary Instruction. The veterinary colleges now provide for their students a suitable training in inoculation, etc., and these men on entering this department are, as opportunity occurs, deputed to districts under the supervision of an inspector where actual outbreaks of diseases exist, in order that they may acquire a working knowledge of inoculation methods as conducted in the field. A course of practical demonstration in pathology and bacteriology can be obtained now at the headquarter laboratory in Lucknow by young veterinary assistants, and these men before being drafted to a district have acquired a knowledge of laboratory methods essential to those working in the field.

It is regrettable that the offer of scholarships still fails to attract suitable young men of these provinces to the veterinary profession. The reason for this seems to be the natural disinclination of the young men in these provinces for any sort of practical work amongst domesticated animals. Last year it was suggested that if this state of things continued it would be advisable to throw open the scholarships to suitable men, residents of the Punjab and other allied provinces. His Honour the Lieut. Governor however was of opinion that no recourse should be made to this if it could be possibly avoided. After several years' trial the danger of the inadequate number of graduates for the department remains imminent.

Treatment of Disease. During the year under report 75,571 cases of contagious disease have been notified from practically all districts in the province with a reported mortality of 24,602. Rinderpest, as usual, has been the most serious and has accounted for 17,363 of the deaths reported. With the increasing attention given to and facilities for ascertaining details and reporting outbreaks, many more now-a-days come to light than in past years, and it is highly probable that only now approximately accurate estimates of the amount of contagious disease with its consequent annual mortality are being obtained.

Glanders and Farcy.—Thirty-eight animals either succumbed to the malady or were destroyed in accordance with the Glanders and Farcy Act. The disease

assumed a severe form on the Dehra Dun-Chakrata Road and also on the Kathgodam-Ranikhet Road, which is often the case when the disease occurs on tonga routes and those places where there is much equine traffic. A scheme has been introduced for the granting of compensation for compulsory slaughter of animals under this Act with a view of bringing to light suspicious cases which would otherwise not be reported.

Surra.—Very few cases of this disease have been discovered during the year. This is attributed to the great scarcity of certain blood-sucking flies (probably tabanus, tropicus, and others) which generally make their appearance annually at the "surra season." Those animals which last year were subjected to the arsenic treatment for this disease are still living and healthy. It is considered that this treatment, although difficult and expensive to apply in the field, may now be regarded as specific in a high percentage of cases.

Dourine.—Five fresh cases of this disease were brought to light during the year and dealt with under the Dourine Act. Suspected animals were traced, registered, and put under observation.

Tetanus.—Eighty-two cases have been reported by veterinary assistants from 18 districts, and 48 cases proved fatal.

Strangles.—One hundred and twenty-six cases of this disease were treated by veterinary assistants, out of which 15 proved fatal.

Epizootic Lymphangitis.—No case was reported.

Other Contagious Diseases.—Under this heading cases of horse-pox, piropasmosis, influenza, anthrax, rabies, as well as those diseases caused by internal and external parasites have been met with, but up to the present it has not been found practicable to introduce a reliable system for obtaining returns.

Rinderpest.—This year very few districts altogether escaped its ravages, although many were affected by a benign form which was quickly suppressed. A very virulent type existed in the districts south of the Nepal forests, from whence it is believed to have extended into British India. The infection was probably brought by the cattle which annually migrate to those jungle tracts for the grazing. Owing to the almost wild nature of these herds a rapid spread of the disease ensues, and as they are untractable except in mobs or with the aid of the lasso it is difficult to apply those measures for its stamping out which are used when dealing with the ordinary domesticated cattle. Where the district board's veterinary staff was insufficient, provincial veterinary assistants from the headquarter staff were deputed and rendered the much-needed assistance. Inoculations were carried out in 37 districts. In the Jalaun district alone 9,115 cattle were immunised.

Hæmorrhagic Septicæmia.—This year appeared in 38 districts with a total mortality of 1962 as against 3679 of last year; 12,667 cattle were inoculated with generally satisfactory results.

Black-quarter.—This malady appeared in 17 districts, and 1105 deaths are reported from Jhansi district alone 288 animals are reported to have died. It causes considerable losses amongst young stock, and in certain localities in which it recurs periodically. Cattle were vaccinated as a preventive measure. There is good reason to believe that much saving of stock could be effected if systematic vaccination could be carried out in those places where black quarter appears annually, providing this could be done before the customary time for its appearance has arrived. At the present time this is impossible owing to the insufficient staff of district board veterinary assistants.

Anthrax.—Reports of this disease were received from 34 districts and 1580 animals perished. It is not easily diagnosed by laymen and consequently often confused with other diseases. Hence very little reliability can be

placed on these figures. Notification of anthrax cases is always given to the American Consul.

Foot and Mouth Disease.—This affection has been very widespread, and has appeared with varying intensity throughout these provinces, very few districts escaping. The reported losses from the disease were 1626, the mortality being chiefly confined to young stock or old decrepit animals. It causes much inconvenience to agriculturists, especially during the harvest or ploughing season. Cattle fairs and markets are responsible for much of the spread of the disease, and the appearance of one case in a village is often soon followed by general infection throughout the whole of the village cattle. This is to a great extent owing to the apathy and ignorance of the villagers themselves, who cannot be induced to realise the necessity of early treatment, segregation, etc. The veterinary assistants have been kept very busy throughout the year in attending and treating cases of this disease. Where funds were available medicines have been distributed free to owners of affected cattle. A special commission on foot-and-mouth disease from England to study the disease *in situ*, assistance has been rendered by this department during their enquiry and morbid material procured for them.

Other Contagious Diseases. One hundred and thirty two head of cattle are reported as having died from other contagious diseases, which include pleuro-pneumonia, tuberculosis, and contagious abortion.

Preventive Inoculation.—Protective inoculations, chiefly against rinderpest, have been carried out on a very large scale. Operations of this nature were undertaken in 892 outbreaks against 397 in the previous year, and 62,435 animals have been inoculated during the year under report. Subsequent enquiries attest that results have been highly satisfactory. Very little opposition is now encountered, the beneficial consequence of the practice gradually overcoming the prejudices of the people.

Other Diseases. The veterinary assistants visited 19,691 villages against 19,786 in the previous year, and treated 45,687 animals or other contagious diseases than those already reported on. Although from this it would seem that this particular branch of work continues satisfactory, still the opinion is held that when contagious disease is not prevailing, these men could be more usefully employed at dispensaries, if more were established at headquarters, than in touring about the country looking for isolated cases to treat.

Investigation of Disease. During the year under report specimens of blood, morbid tissues, intestinal and other parasites have been submitted to the new laboratory at headquarters by veterinary inspectors, assistants, and also from district authorities for bacteriological and pathological investigation and opinion. Animals affected with various obscure diseases have also been sent for investigation, but owing to lack of accommodation much useful material has had to be refused since there was no place to keep them in. Owing to the development of the department and the increasing interest shown by the public in its endeavours to mitigate animal disease, it has become necessary to devote more attention than formerly to that branch of work which includes research. Such diseases as kamri, barsati, akrab, dourine, pleuro-pneumonia of goats, fowl spirochaetosis, malignant jaundice (piropasmosis) of the dog, as they occur in India, all call for more accurate knowledge, and at such a place as it is proposed to establish, work in this direction could be carried out with much benefit. Sanction has now been accorded for the erection of a suitable building in Lucknow.

Cattle Poisoning. Cases of criminal cattle poisoning have been reported from six districts. These were

investigated and handed over to the police to deal with.

Veterinary Hospitals and Dispensaries. There are now 46 hospitals or dispensaries in working order in the province. Those large and well equipped institutions in the important cities and towns, with adequate accommodation for in-patients are classed as hospitals while the less important ones of limited accommodation come under the head of dispensaries.

It is satisfactory an encouraging to record that the total number of cases treated during the year at hospitals and dispensaries was: out-patients 43,106 and in-patients 4061, making a total of 47,167, an increase of 6775 on last year's return. Some districts have introduced the system of charging a small scale of fees to those owners who can afford to pay, whilst others are as yet averse to the procedure. Where the system has been adopted and carried out in a business-like way it has proved a success, and has in no way affected the popularity of the hospitals. In Lucknow, the hospital has brought in an income of Rs. 2593 during the year, and has an average daily attendance of four new cases.

Breeding Operations. Stud Bulls. The provision of adequate bull power appears to be giving a considerable impetus to the cattle breeding industry which year by year is arousing greater interest in the minds of the public of the province. The endeavours of the Civil Veterinary Department have been directed towards the production of—

(a) Improved working bullocks for ploughs, wells, and general agricultural purposes as well as for heavy draught work.

(b) A higher milk yielding class of cows.

For the latter purpose a further batch of 13 bulls of the Hissar breed was obtained from Government Cattle Farm, Hissar, this year, and issued where required.

The bull rearing farm at Kheri is now in working order and continues to progress satisfactorily. Arrangements are being made to clear all the jungle, and it is hoped within a few years to convert the whole 500 acres into first class grazing land. There is at present 268 head of young stock on the farm. As anticipated last year, it has been possible to issue 25 good young stud animals in 1912 which is much earlier than the original scheme provided for, and a further batch of 26 will be ready in May, and again during the cold weather of 1913.

As the Hissar Cattle Farm has now passed under the control of the Punjab Government, and since everything points to a still greater demand for the heavier breeds of bulls such as Hissar, Kosi, etc., for the western districts of this province, as well as for improvement in the breed of milch cattle, a scheme has been submitted for establishing another farm in the Muttra district for breeding suitable animals.

Horse and Pony Stallions. At the beginning of the year under report there were 56 stallions on the register, all being the property of the provincial government.

Six stallions were purchased by the department during the year, four were castrated and sold, as they were considered unfit for further stud purpose, one died from snake bite, thus leaving a balance of 57 at the end of the year. Forty-eight stallions were employed at stud.

The number of mares covered by these stallions has amounted to 2,759; an increase of 20 on the previous year's coverings.

It is satisfactory to note the decided improvement and promise shown by the young stock, progeny of these provincial stallions in many places. Some exceptionally good young stock was noticed at the Saharanpur fair. The Arabs "Bumblepuppy," "Sardar," "Copenhagen," and "Brigand," all of which are very popular with the breeders, have maintained their high standard and reputation as prime foal getters.

The functions of this department in so far as horse breeding is concerned, are confined to the improvement of the indigenous horse and pony for the general utility of the people in those tracts other than the four selected districts of Aligarh, Muzaffarnagar, Bulandshahr, and Meerut, and it is noticeable that these tracts which were primarily considered unsuitable for horse breeding are now proving themselves capable of producing an animal which may be confidently expected to further improve.

Donkey Stallions.—There appears to be still an increasing demand for the services of donkey stallions for mule breeding, but the limited number available renders it difficult to meet the demand. It has been found impossible to obtain donkey stallions suitable for the purpose in India, therefore it is essential to think about making some arrangements for importing them if the mule breeding industry is to be encouraged and sustained.

Sheep Breeding.—Operations have been started in this direction as was proposed last year with the object of ascertaining if there is any possibility of improving the quality and quantity of the wool of the Indian sheep. Experimental flocks have been formed and located at Aligarh, Moradabad, Bahraich, Kheri, Allahabad, Banda, Partabgarh, and Lucknow, and imported Merino rams introduced into the flocks. Already some 55 half-bred Merino lambs have been born, but as yet it is too early to give any opinion in the matter. For this experiment 12 Merino rams were purchased, and during the year there were four casualties.

Fairs and Shows.—Temporary veterinary dispensaries were opened in connection with the Etawah, Bulandshahr, Saharanpur, and Batesar fairs under charge of District Board or Municipal veterinary assistants. Interesting specimens of drugs, instruments, etc., dealing with treatment of agricultural stock were on view at the Etawah Exhibition, and demonstrations in inoculations and other methods were given.

Rupees 1401 were contributed towards prize awards, and this amount was distributed at Saharanpur, Bulandshahr, Banda, and Ballia fairs.

Subordinate Establishment.—During the year the subordinate staff has increased from 156 to 162, and the strength of the establishment as it stood on 31st March was as follows:—Veterinary inspectors 16, veterinary assistants employed by Districts Boards 118, by Municipalities 15, by the Society for the Prevention of Cruelty to Animals 1, and 12 belonging to the provincial or headquarters staff (including one at the Cawnpore Agricultural College). One veterinary assistant was dismissed by the District Board, Etawah, for falsifying inoculation returns, and another of Naini Tal District Board for perjury.

Although the staff has increased considerably since the re-organisation of the department in 1903, when there were three inspectors and 51 assistants, it is still far below the requirements. In 1907 it was considered that one veterinary assistant per tahsil was needed and should be employed, but even now provision for that number has not been reached. The Superintendent is of opinion that not less than two men per tahsil can ever successfully cope with the amount of work connected with the treatment and preservation of agricultural and other stock. District Boards, either from want of funds or because they fail to realise the urgency of providing veterinary help for the agriculturist whose welfare depends so largely on cattle, are still reluctant or adverse to make an increase in their veterinary staff. The Dehra Dun district comprising an area of 1193 square miles of very difficult country, with a cattle census of 248,679 and those cattle possessing a high degree of susceptibility to contagious disease, is naturally continually visited by outbreaks of cattle disease, yet up until February last the District Board maintained

but one veterinary assistant to deal not only with contagious disease but also to carry out the ordinary duties expected of a veterinary assistant, over that vast area.

The veterinary inspectors are doing useful work and have been busily employed during the year in checking the work of veterinary assistants, conducting inoculation campaigns and other measures to suppress outbreaks, in inspecting and in supervising. The provincial staff of veterinary assistants has done good work in relieving District Board veterinary assistants proceeding on leave and in rendering assistance in treatment of cattle disease and inoculation in cases where the local staff has been inadequate. They also help considerably in making special investigations and enquiries regarding diseases, and some have been able to render good service connected with horse and cattle breeding operations, and in the laboratory. It is found that as a rule the work of these provincial men is of a more efficient and thorough character than that done by those men employed by District Boards under whose orders they are. It is obviously impossible for a District Board to efficiently control officers carrying out work of a technical nature such as this, and hence their veterinary assistants can easily evade duties which they would otherwise find difficult if placed more directly under the control and orders of the Superintendents of the Civil Veterinary Department.

Expenditure.—The cost of the department according to the statement furnished by the Accountant-General, shows a decrease, viz., Rs. 82,724 this year against Rs. 93,938 expended last year.

C. W. WILSON, M.R.C.V.S.,
Officiating Superintendent, C.V.D., United Provinces.

Cruelty to Lambs—Rickets. Dismissed.

At Mistle on Monday, September 1st, before Dr. W. H. Slimon, and other Magistrates, John Bird, farmer, of Ardleigh and Lexden, was summoned for causing unnecessary suffering to four lambs at Ardleigh, between 1st and 18th August.

Inspector Patrick Dooner, R.S.P.C.A., said he accompanied P.C. Link to a field belonging to the defendant, where he saw four lambs in a very emaciated condition, and all lame. One animal had the use of the front legs only, and showed signs of having been dragged along for some considerable distance. Another animal could only walk a little. There were no signs of food or water having been given the animals.

William Norfolk, a shepherd employed by the defendant, who appeared on subpoena, stated that one of the lambs had never been able to stand on its legs. If the animal had been his he should have long since destroyed it.

In reply to the defendant, witness said he had never known him to be cruel to any animal, and he had always supplied more than enough food.

Mr. Walter George Green, M.R.C.V.S., Colchester, testified to examining four lambs which were about four months old. One was completely paralysed, and was dragging its hind on the ground. There were abrasions of both knees through having to crawl. The second lamb was lame, and the off fore-leg was very much deformed. There were abrasions on the knees of both hind legs. The third lamb was suffering from bony enlargement of both knees. The fourth, although lame, was not so bad, but like the others it was suffering from rickets. The legs of one of the lambs were twisted like chair legs.

Defendant called his son, Horace Charles Bird, farmer, of Ardleigh, who said the condition of the animals was caused through over-feeding. Both he and his father were always kind to animals.

The shepherd, recalled, said that, acting on instructions of the Inspector, he killed two lambs. He gave the carcass of one of the animals to the dogs, and that of the other to his neighbour for human food. (Laughter.)

Defendant said he had seen dozens of rickety lambs at lamb sales and markets, and he did not think it was cruelty to keep them.

The Chairman said the Bench were equally divided as to whether the defendant were guilty or not, and the case would therefore be dismissed. He added that he had all his life dealt with cases of rickets, and he knew that to leave lambs in a field to feed by themselves would be cruelty.—*East Anglian Daily Times.*

New Abattoir for Belfast.

The splendid abattoir opened just now is the finest and best equipped establishment of its kind in Ireland, and if Glasgow and Edinburgh did not block the way, we should say of the United Kingdom. There is lairage accommodation for 300 cattle, 1000 sheep, and 200 pigs. The railway facilities are of the best; live stock are brought alongside, and the Board of Agriculture have provided sidings where the inspection before slaughter can be made instead of at the different railway stations, as was previously the case. From a practical, as well as a humane, point of view, this is a most desirable arrangement.

The slaughtering accommodation for all classes of stock is ample, complete, and up-to-date in every detail. The buildings are lighted throughout by electricity, each one has its electric clock, and all are in touch with the inspector's room by means of the telephone. The abattoir covers a space of three and a half acres, and there is plenty of room for expansion.

The offices of Mr. J. A. Jordan, the well-known City Veterinarian and Superintendent of Abattoirs, and his staff, situate at the main entrance, are ideal for their purpose. Meat inspection in Belfast has no dread for the butcher; he has learned by experience that in the very practical hands of Mr. Jordan his interests are not overlooked. Nothing is condemned merely to pander to a fad, the consequence being that our Ulster friends are immune from many of the harassing and vexatious seizures of which we too often hear elsewhere.—*Meat Trades' Journal.*

The Cost of Foot-and-Mouth in Ireland.

The report of the Department of Agriculture and Technical Instruction for Ireland on proceedings under the Diseases of Animals Acts for 1912 has been issued. It deals with the outbreaks of foot-and-mouth disease in 1912, of which there were sixty-eight cases among cattle, one among sheep, and two among swine. The disease had not been previously known in Ireland for twenty-eight years. The total number of animals slaughtered during the operations against the disease, including both infected animals and those in contact therewith or otherwise exposed to infection, was 3592, of which 1928 were cattle, 1533 sheep, 100 pigs, and 31 goats. The aggregate amount paid as compensation for the stock so slaughtered was £28,030 13s. Owing to the restrictions adopted for the suppression of the disease, the exports of cattle, sheep, and swine fell to an unusually low level, the total for 1912 being 1,439,538, as compared with 1,695,039 in 1911. The falling off was, however, almost entirely in classes other than fat cattle, the fat cattle shipments being some 67,000 head in excess of those for 1912.—*N.B.A.*

Cattle Hides Injured by Ticks.*

According to figures gathered by one of the veterinary inspectors of the Bureau of Animal Industry, the presence of the tick among the cattle of the south not only lessens the value of the cattle on the hoof, but causes the hides that have been infested with ticks to be graded No. 4 quality.

The same hides, if free from tick marks, would grade No. 2. The difference in price between these two grades is 3 cents per pound. As the hide of southern steers weighs about 42 pounds, the presence of the tick in the hide causes a loss in the hide alone more than 1.26 dols. (say 5s.) per hide. Government specialists point out that the cost of tick eradication is only about 50 cents per head, so that if the counties make a systematic campaign to eradicate the tick, the increase in value of the hide alone would pay for the cost of tick eradication and leave the farmer a net profit of about 76 cents (3s.) per hide.

A prominent tanner in Pennsylvania states:—"For the class of leather we make we prefer southern hides for chrome, on account of the close texture and fine grain, but on account of the ticks we have had to practically stop purchasing southern hides."

A large percentage of the chrome leather now produced is finished with the grain left on so that all imperfections and tick marks on the grain side show very plainly. In the old days when all the leather for uppers was made from bark-tanned stock, all leather was buffed and the grain was removed, and tanners could use cheap hides that were covered with imperfections and tick marks, and make fairly good leather. The situation today is very different, as the public is demanding more and more grained leathers for which large proportions of southern hides will not be available until the tick is eradicated.

Tennessee will probably be the first State to be entirely free from quarantine for ticks. It already has eradicated the tick in fifty-one counties, and it is hoped that by September 1st the remaining eight counties will be free from ticks and the entire State out of quarantine.

According to the specialists of the Department of Agriculture, it has cost less than 50 cents per head to eradicate the tick in Tennessee, and the cattle owners as a result have gained not less than 7 dols. per head of their stock, so that the investment paid for itself nearly 14 times over in a very short time. This does not include the additional profits which come from the fact that now that the tick is eradicated more cattle can be raised on each farm and the consequent increase of the amount of fertilizer available.

* Office of Information, U.S. Department of Agriculture.

Holstein Bulls for Dairy Herds.

Several of the large dairy farmers in Cheshire are purchasing Holstein bulls for the improvement of the milking qualities of their Shorthorn herds. Mr. W. Carter, Broad Lane, Nantwich, one of the Cheshire County Council small-holders, has a herd of sixteen of these cattle. Recently one of his cows gave 88½ lb., or nearly 9 gallons of milk, in one day. The average yield of Holstein cattle is from 5 to 6 gallons per day. At the South Cheshire Show Mr. Carter showed two of his British Holstein cattle. One of them, Hedges Burnie, won the special prize offered by Messrs. Henry Manley and Sons for the best dairy cow in the show. The same animal also won the second prize in a strong class against all Shorthorns. The other animal, Willow Crewna, a two-year-old heifer, was awarded third, also in a good class of Shorthorns.—*L. S. J.*

Personal.**HIGH COMMISSIONER'S NOTICE No. 66 of 1912.**

It is hereby notified for general information that His Excellency the High Commissioner has been pleased to appoint WILLIAM ALEXANDER ELDER, Esq., M.R.C.V.S., Veterinary Officer to the Swaziland Administration, to be a Justice of the Peace for the Territory of Swaziland.

By command of H.E. the High Commissioner.

C. H. RODWELL, Imperial Secretary.

Pretoria, Nov. 11, 1912.

Mr. W. GRAHAM GILLAM, M.R.C.V.S., of Prince Albert, late of Minehead, Somerset, was one of the judges at the Agricultural Shows at Melfort and Prince Albert, in the Province of Saskatchewan.

Mr R. M. MALLOCH, M.R.C.V.S., Kirkby Stephen, has been appointed foreman of the jury in the enquiry on the Aisgill railway disaster.

COMPULSORY NOTIFICATION.

Sir,

I have read your Editorial of the 13th inst. with interest in regard to what transpired at the Midland Counties V.M.A. I feel sure that the points mentioned are not the real cause of many veterinary surgeons feeling aggrieved at the working of the Tuberculous Order. What I, and others to whom I have mentioned the matter, object to, is, that when you have reported, another V.S., often quite a young man, comes into your district, sometimes parading his authority and in other ways "showing off." I am not ashamed to say that I do strongly object to this for reasons any practitioner can understand. Is it fair that an outsider should come right among my clients, even to within a mile of my residence, to carry out the terms of this Order?

I do think every V.S. ought to have the inspection of a certain radius round his own district, which would save much friction and also unnecessary expense. Fancy sending a man about 18 miles to a farm which is within a mile of my house, to apply the tuberculin test!

Of course, sir, I know I am bound to report cases coming under my notice, and should never think of doing otherwise, but I do say it is placing one in an invidious position. I suggest that all veterinary surgeons not inspectors should memorialise the Board of Agriculture to represent to the various County Councils this *real grievance* under which the private practitioner at present is labouring. It is admitted that this Order is to be a great help to the veterinary profession, so why not have a more equitable arrangement which will allow wider distribution of the fruits? My candid opinion is that the practitioner who is not also a veterinary inspector is going to have to submit to many indignities, and have his practice much curtailed.

With your permission, sir, I should be glad to hear if these suggestions of mine are favourably received, when arrangements could be made to bring the matter before the proper authorities at an early date.—Faithfully yours,

C.

A CAUSE OF "EMACIATION."

Sir,

When the Tuberculosis Order came into force in May last, a deal of judgment was required to discriminate between poorness and emaciation. The former arising from the poor quality of the hay upon which the cattle were fed during the previous winter, and the latter being the result of disease, probably tuberculosis. I would now point out that another factor has arisen, which may make it difficult to arrive at a correct diagnosis. I allude to the presence of the *Distoma Hepaticum*, which as is well known to the older practitioner, causes extreme emaciation of the host. I came across a case under the Order yesterday, but fortunately for me the beast was affected with tuberculosis also.

—Yours faithfully,

Swindon. Sept. 17.

J. C. COLEMAN.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1316.

SEPTEMBER 27, 1913.

VOL. XXVI.

A POINT IN DIAGNOSIS.

In a clinical note this week, Mr. W. T. D. Broad calls attention to a diagnostic procedure which, so far at least as tuberculosis is concerned, is perhaps not sufficiently regarded in this country. There is, of course, nothing new in rectal exploration for the detection of tuberculous proliferations within the abdomen; but it is not very often heard of as a routine diagnostic measure. There are writers upon tuberculosis who, if they mention it at all, do so with a certain amount of reserve; and we fancy that few of our members have yet regularly practised it. It is recommended by so high a clinical authority as Ostertag; and Mr. Broad's experience supports the opinion of the great German expert.

SALVARSAN.

Recently there have been a number of reports from abroad upon the successful administration of salvarsan to animals. These may induce some English members to give the drug a trial—for there are animal diseases in this country for which salvarsan may well be worth a trial. But anyone making the attempt would do well to first consider the history of salvarsan in human medicine, and the present views regarding the administrative technique and contra-indications.

Our records of the action of salvarsan upon veterinary patients are few; and we may learn much from the incomparably richer experience of the medical profession. Salvarsan leapt into wide popularity in the treatment of syphilis; and for some little time—until a larger experience of it was available—its use was held by many to be practically devoid of danger. That view has since been modified; and the drug is now used with much more care and discrimination. This may be taken, not as a warning against the use of salvarsan, but to emphasise that it should be introduced into veterinary practice cautiously. Its value in human medicine is now beyond question; and it may prove to be equally valuable in some veterinary conditions.

AN INNOVATION.

At a recent meeting of a local Society, four of the members submitted microscopical specimens. Hitherto, with exceptions few and far between, microscopic demonstrations have been by teachers from one or other of the veterinary schools. The old-time "paper" at these meetings, often wearisome and unprofitable, is slowly giving place to shorter and more profitable "introductions" of the subjects, to "impromptu discussions," and to extended series of specimens with verbal clinical notes. Each of these changes should add something to the life and interest of the meetings, and just now the latest will not be the least appreciated.

"EPHEMERAL LAMENESS"—REMARKS.

By E. WALLIS HOARE, F.R.C.V.S.

The above is a "coined" term, to express a form of lameness which is of remarkably short duration and recovers spontaneously. Probably it is already familiar to many practitioners, but has not received any degree of attention. A consideration of the subject may not be pleasing to all minds, because one has to admit a certain amount of ignorance with reference to diagnosis; and moreover the cases I shall attempt to describe are not by any means "paying" ones. They recover so quickly that second visits are countermanded, and even the ubiquitous bottle of embrocation or "white oils" is not used up before the horse is again fit for work.

The lameness appears either when the horse is at work or in the stable. In a case met with lately, the horse was attached to a heavy van, and while at a walking pace, suddenly went so lame in the near hind limb that he had to be taken out of harness. On examination I found that no weight could be borne by the limb, and it looked like a case of fractured pelvis. But nothing abnormal could be detected in any part of the leg. A "wait and see" diagnosis was given, and the horse was with difficulty led to his stable: the onlookers remarking that "any d— fool could see that it was a 'broken leg.'"

Next morning I was surprised to find that the horse was working as usual, and not a trace of lameness was present!

What an opportunity for a lightning diagnosis and for a prognosis, likewise for a demonstration of the miraculous powers of "white oils." But alas! the risk was too great, and I have to be content with the thankless "wait and see" diagnosis.

In another case a horse was found by the stableman in the early morning, so lame that a broken leg was suspected. On attendance I found the animal very lame in the off hind, and on movement he placed but little weight on the limb. Progression seemed to cause pain. Nothing abnormal could be detected. As some diagnosis had to be given, the muscles of the hip seemed a safe region on which to expend the energies of the stableman with fomentations and liniment, until the visit on the following day. But *mirabile dictu*, an early telephone message came on the following morning, that "Persimmon" was quite sound and would be put to work. This news was not altogether pleasing, because the owner did not belong to Sam

Weller's "advice free" order, and visions of a good space in the ledger were shattered.

I could recall several other cases of a similar kind in the hind limb, but wish to draw attention to the fact that cases may also occur in a fore limb. These I have observed especially in fresh horses, and those having high action. The lameness may occur either in harness or in the saddle. The attendant in one instance stated that when driving quickly in the street, the horse suddenly went "dog" lame. In another case the horse was being ridden, and quite close to his stable he went so lame that he could only be with difficulty brought home.

At first sight the lameness simulates "dropped elbow," and, indeed, in one instance I diagnosed it as such. But on the following morning I was reminded of the veracity of the hippocratic aphorism, "Experience is fallacious and judgment difficult," because the horse was going quite sound.

What is the nature of these cases? I candidly admit that I do not know. Probably if I possessed the skill of the well-known Professor, who, from hearing the sound of a horse walking, could distinguish the lame leg and recognise the seat of the lameness at a glance. I might be able to venture an opinion, but I am reminded that the Professor was most careful to examine the foot in every case, so after all his skill was not beyond that of ordinary mortals.

The diagnosis of lameness will always prove to be one of the most difficult problems in professional work, and the prognosis is certain to cause much "stretching of the pia mater." Progress in both these directions has been slow, and in many instances is more apparent than real. Dogmatism still succeeds in gaining reputations, and the assumption of super-natural skill proves a valuable asset to the tactful practitioner. He may endeavour to persuade his professional brethren that his skill is founded on a profound knowledge of anatomy and physiology, but those who are "in the know" are well aware that the sciences named have been for many years "closed books" to him.

Cleverness has been defined as "Knowing your own ignorance and being able to conceal it from others;" and few will deny that, in the diagnosis of lameness, this type of cleverness is a very essential element to those who seek to obtain and maintain a reputation that is "oft won without merit."

The diagnosis of lameness offers a grand and unlimited scope for dogmatism and bluff, because the correctness of the opinions given can but seldom be tested by post-mortem examinations. So the consultant, Sir Oracle, or Professor Gamaliel, is able with impunity to differ in opinion with the ordinary practitioner, and to make him feel small. If the case has been treated for hip lameness, the consultant instantly jumps to the hock, and if the case recovers he gets the credit. But if the truth were known, the consultant is quite as much in doubt as the attending V.S., yet the fact remains that by treating the hock, so much time is occupied that, in the event of the cause of lameness being anywhere else, if curable, the case recovers by means of that very useful therapeutical agent—*rest*.

Some are able to "go one better" and treat two regions simultaneously, with the plausible excuse that by blistering one joint the movement in the other is restricted. Or, if in a doubtful case the attending V.S. abstains from giving a definite opinion, the consultant with the utmost *sang froid*, declares the existence of a fracture, but, mark you, always a *curable* one, thus adding to his false reputation, when the case recovers by the *vis medicatrix naturæ*. Protected by the fact that post-mortem examinations are not likely to be held on such cases, the opinions given are sometimes grotesque in the extreme. The wonder is how the owners of the horses manage to swallow some of the fairy tales that are manufactured by the "successful and practical men."

On calmly considering the matter one is led to enquire how many diagnoses of lameness are correct. No doubt when pus is found in the foot the veriest neophyte can boast of his diagnostic powers, but the finding is very often a difficult procedure, and is not accomplished by the observation of peculiarities of action. Even the greatest "specialist" in lameness would hesitate to give a definite opinion until he had made a careful examination of the foot, thus showing that in this respect at least he has not advanced from the knowledge possessed by his ancestors. But in cases where nothing is found in the foot, and the horse either recovers or remains lame for an indefinite period, who can say as to the actual seat of the lameness. The old rule for a "working" diagnosis still remains good—if in doubt *re* the fore leg, say the lameness is in the foot; if in the hind limb, say it is in the hock. To this one might add that the term "rheumatism" is a very convenient one in practice—it will cover a multitude of blunders.

Avoid the term "navicular disease," it is a difficult hole to get out of, and clients know too much about its progressive nature and incurability. But rheumatism of the sensitive laminae or of the navicular bursa, is a useful term, because rheumatism is a "peripatetic" disease, and enables us to alter our diagnosis without confessing our error. And after all, why should not rheumatism affect the structures named and account for those obscure forms of foot lameness which time proves are not due to navicular disease. Besides, one has always the crutch to lean on that the rheumatic cases *may* develop into navicular disease, so we can adopt a "wait and see" diagnosis.

Ditto, ditto, as regards hock lameness; incipient spavin, or rheumatism of the hock, is a useful term, and peradventure if the case recovers, but no spavin appears, we can still wriggle out of the difficulty for, as already remarked, by treating the hock, time will be given for the real cause of the lameness to disappear, but the converse does not hold good. At any rate, the hock is a safe location for the majority of cases of hind leg lameness.

The Irish returns this week show only seven cases of sheep-scab. Under all other headings of diseases there is a blank.

DIAGNOSIS OF TUBERCULOSIS.

Subject.—A five-year-old roan shorthorn cow, which slipped calf two or three months ago, and turned out as a barren. She had not thrived since aborting, but the last month had fallen away rapidly. Auscultation revealed slight abnormal respiratory sounds and pericarditis with fluid in the pericardium.

This brought to my mind wire, or some other sharp foreign body, having pierced its way from the stomach. As a result of my earlier cases under the Tuberculosis Order, I found I could frequently palpate some of the grapes lying on the rumen by rectal examination. I accordingly examined her in this manner, when I found a large number of what felt like peas under the hand on the rumen.

I had her slaughtered, along with another, without further test. Post-mortem revealed the inside of the pericardium, which contained a lot of fluid, and the epicardium literally studded with tubercles; two or three egg-sized caseous masses in each lung, and two large mediastinal glands. The peritoneum, liver, and other abdominal organs were thickly studded with tubercles from the size of a pea to a bean.

There was no turning out of the elbows, or œdema under the chest, or dewlap during life.

WM. T. D. BROAD, M.R.C.V.S.

Marlborough.

ABSTRACTS FROM FOREIGN JOURNALS.

THE USE OF PITUITARY EXTRACT IN BOVINE AND EQUINE OBSTETRICS.

The power of stimulating uterine contraction in the human being and in the small domestic animals which is possessed by extracts of the infundibular portion of the pituitary gland, is now well known. Hans Schmidt and Michael Kopp, two veterinary surgeons of Wolfratshausen, have been trying the agent this year, as occasion offered, in bovine and equine obstetric practice. They have used a 15 per cent. infundibular extract, which is supplied by the "Chemischen Fabrik" of Aubing, in 10 c.c. ampullæ, and with this they have treated six cases. Four were treated by the two men conjointly, and two by Kopp alone, and all are now reported at considerable length. The following is a very brief *resumé* of each.

The first case was a cow at her third parturition. A living calf was born, and the after-birth was discharged naturally after a few days. Nine days after calving the authors found her suffering from purulent metritis. The uterus was greatly enlarged and contained great quantities of pus, a portion of which was removed by massage of the organ through the rectum. The uterine walls were completely flaccid, and did not contract upon syringe out with hot solutions, which had to be drawn away with the uterine catheter. The next day no

uterine contraction had taken place, and 10 c.c. of pituitary extract was injected. This was followed after five minutes by powerful expulsive efforts, which lasted for about ten minutes and were accompanied by a copious discharge of pus. Rectal exploration then showed the uterus to be well contracted and sharply defined. The case did well.

The second case was a heifer, 2½ years old, a primipara. For two days she had shown violent labour pains without delivery. Kopp, examining her on the third day, found that the pains had quite ceased. He diagnosed a complete torsion of the uterus, and after rectifying this by rolling the heifer, he ascertained by vaginal and rectal exploration that the os uteri was closed, and that the calf was dead. The injection of 10 c.c. of pituitary extract was followed in a few minutes by the onset of violent labour pains, which were maintained throughout the parturition. The os uteri opened naturally, the calf was extracted with manual assistance, and the case did well.

The third case was a cow, the number of whose parturitions was unknown. For a space of five days she showed frequent straining, with appearances resembling labour pains. Kopp examined her three days after the expiration of this period. He found the os uteri partially open, permitting the passage of a finger. The calf was dead, and there was a foul-smelling discharge in the vagina. The temperature was 104.3 F., and no labour pains or straining were present. A first injection of 10 c.c. of pituitary extract had no effect, and the same dose was therefore repeated fifteen minutes later. This was followed by slight appearances of labour pains, and the dilatation of the os uteri till it permitted the passage of the hand. It was then possible to extract the foetus and disinfect the uterus, and after this had been accomplished the case did well.

The fourth case was a mare ten years old, at her second parturition. This animal had shown labour pains since the day before, and appeared completely exhausted when examined. The vagina was narrow, and the os uteri was only partially open, closely surrounding one foot of the foal. One injection of 10 c.c. of pituitary extract had no effect beyond inducing some attempts at straining, so the dose was repeated ten minutes later. This was followed by the onset of powerful labour pains, and by the dilatation of the os uteri in about ten minutes. After ten minutes more the foal was born without special assistance, and the case did well.

The fifth case was a newly-purchased heifer, 2½ years old, a primipara. This case was seriously complicated by fatigue arising from transport, and by cardiac weakness. Violent labour pains had appeared early in the day and had ceased towards the afternoon, and the animal, when examined by the authors in the evening, was unable to stand. The os uteri was closed. In this case three injections, each of 10 c.c. of pituitary extract, were given at intervals of half-an-hour, the authors thinking it advisable to push the drug on account of the exhausted condition of the heifer.

The first dose was quickly followed by a return of labour pains, and the second by opening of the os uteri and protrusion of the membranes. The third caused violent pains (throughout which the heifer was still unable to rise), and the birth of a living calf ensued without assistance. No untoward results followed the three injections.

The sixth case was also a heifer 2½ years old, and a primipara. In some respects this case greatly resembled the last one, as it was complicated by extreme exhaustion from transport. There was, however, no special cardiac weakness; but there was the additional complication of a torsion of the uterus. When this was recognised, the animal was unable to stand; and, after it had been rectified by rolling, even the application of an electric current failed to induce her to rise. The os uteri was closed. In this case, also, three injections of pituitary extract were given, causing the speedy appearance and gradual increase of labour pains. The os uteri opened and dilated by degrees; and, despite the exhausted condition of the heifer, a living calf was extracted.

In all these serious cases, the pituitary extract quickly induced vigorous contraction of the uterus; and in no case was this accompanied by tetany or any other undesirable effect. The authors therefore regard the agent as a valuable addition to veterinary therapeutics.—(*Münchener Tier. Woch.*)

THE LIFE-HISTORY OF *SCLEROSTOMUM BIDENTATUM*.

Reinhold Stier reports (*Archiv. f. Wissenschaftl. und prakt. Tierheilkunde*) the results of investigations upon this subject which he has carried out in Prof. Schütz's Institute. His conclusions are summarised as follows;—

1. Almost every horse is affected by one or several aneurisms of the ileo-cæco colic arteries and their branches.

2. The average internal length is 2¾ to 2½ ins., the internal circumference 2 inches, and the average thickness of the wall 1-6th to 1-5th inch.

3. One or several thrombi with parasites are always found in the aneurisms in winter, and not rarely in summer.

4. The number of parasites is smaller in summer than in winter.

5. The worms found in the vessels are always young forms of *Sclerostomum bidentatum*.

6. The most abundant intestinal nodules and the majority of sexually mature parasites are found in the cæcum. *Sclerostomum edentatum* is more frequently found in the intestine than *Sclerostomum bidentatum*, and the latter is far commoner than *Sclerostomum quadridentatum*.

7. The author has not found young forms of *Sclerostomum bidentatum* in the intestine and its membranes.

8. On that account, and for several other reasons, the author concludes that the parasite develops up to a certain stage in the mesenteric artery, and only reaches the intestinal wall by way of the blood-stream about the period of sexual maturity.—(*Münchener Tier. Woch.*)

TEMPORARY BLINDNESS.

Lechle, of Aub, reports the following peculiar case. A horse during the period of warranty was objected to on account of chronic diarrhœa. He was then placed in the stable of a referee, and, while there, showed a violent attack of delirium, with subsequent unconsciousness. This had passed off when Lechle first examined him.

In the next few days Lechle examined the animal with regard to staggers, and found that complete blindness was present. The horse ran against obstacles in his path, but was responsive to the voice and touch of his driver. Nothing abnormal could be seen by an examination of the eyes, beyond the complete blindness.

Four or five days later, Lechle again examined the animal, and found to his astonishment that the vision was completely restored.

A peculiar feature of the case was that the horse, which had previously been suffering from diarrhœa, showed temporary constipation both shortly before the attack of delirium, and also before the ephemeral blindness. Lechle suggests the possibility that alteration of the blood pressure in the brain had set in as a consequence of that in the intestine, and had caused the attack of delirium and the paralysis of the optic nerve. No recurrence of these attacks took place, but the horse was soon sold elsewhere, and Lechle therefore lost sight of the case.—*Münchener Tier. Woch.*

A PROTRACTED CASE OF TETANUS.

Solleder, of Lauingen, reports the following case, which is noteworthy on account of its unusually long duration. A young horse, a yearling, was operated upon for umbilical hernia, wooden clamps being used. The clamps fell off 15 days later, and the wound healed very well. Five weeks after the operation, Solleder was again called to the animal, and found it suffering from tetanus. Infection appeared to have occurred through a small moist place upon the old wound.

The most different methods of treatment were adopted, but the animal's condition remained unchanged for a period of *fourteen weeks*. The symptoms present throughout that time were mild trismus (the animal took food well), marked projection of the membrana nictitans, stiffness of the neck with violent contraction of the cervical muscles, and groaning at every exertion. Improvement began to appear after the time mentioned, and the animal lay down for the first time more than three and a half months after the beginning of the illness. After another four weeks the last symptoms of illness had disappeared.—*Münchener Tier. Woch.*

ATRESIA VAGINÆ HYMENALIS.

Schenkl, of Geiselhöring, records the case of a four-year-old mare, supposed by her owner to be suffering from a prolapse of the vagina. Upon examination Schenkl found a red, soft, bladder-like swelling between the lips of the vulva. Schenkl attempted to explore the vagina, and found that this abnormal swelling prevented access to it.

Schenkl threw the mare, and incised the bladder-like formation, the result being the escape of clear glassy mucus. It was now possible to reach the os uteri through the opening made by the incision. The case was, therefore, only an apparent prolapse, being really a closure of the vagina. The secretion which had collected behind the occluding wall had caused the latter to bulge outwards after the manner of a prolapse.

A portion of the occluding membrane, about the size of the palm of the hand, was removed, the bleeding was arrested by compressing the lips of the vulva together, and the mare was then allowed to rise. The treatment was completely successful. —*Munchener Tier. Woch.*

W. R. C.

SOUTH DURHAM AND NORTH YORKSHIRE VETERINARY MEDICAL ASSOCIATION.

The annual meeting and dinner was held in the Imperial Hotel, Darlington, on Friday, Sept. 5th. The retiring President, Mr. W. Awde, Stockton-on-Tees, was in the chair. There were also present: Messrs. G. R. Dudgeon and T. T. Jack, Sunderland; T. Wilkinson, Lanchester; J. Wilson, Yarm; P. Snaith, Bishop Auckland; H. Peele, Durham; P. B. Riley, Barnard Castle; W. N. Dobbing, C. G. Hill, F. H. Sanderson, and J. H. Taylor, Darlington.

Mr. HILL proposed, seconded by Mr. Dudgeon, and carried, that the minutes of the previous meeting as they had appeared in *The Veterinary Record* be taken as read and confirmed.

The President-elect, Mr. J. M. Walker, wired that he much regretted being unable to be present, and Messrs. Morton, Forbes, and Blackburn wrote that they had engagements which prevented them attending.

Messrs. T. WILKINSON, Lanchester; and T. T. JACK, Sunderland, were unanimously elected members of the Association on the proposition of Mr. Dudgeon, seconded by Mr. Hill.

CLINICAL CASES.

The HON. SEC. said that he had recently been called in to make a post-mortem on a foal. The foal had been out at grass with its dam about a mile from the owner's house, and was seen once a day by the groom, about five o'clock in the evening, when they were fed. Both mare and foal were all right when seen on the Saturday evening, but on going to see them the next evening the foal was dead. The foal was removed to the kennels. On removing the skin, there was a bruise on the left flank about the size of the palm of one's hand, the subcutaneous tissue being much infiltrated with serosity. On opening the abdomen a quantity of faeces and fluid escaped, and on carefully examining the bowels a rupture about three inches long was found in the small bowel, around which, in the peritoneal coat and mesentery, was extravasated blood. He came to the conclusion that the mare had most probably kicked the foal in the flank, and the bruise and rupture had resulted. The owner had seen the mare kick the foal on more than one occasion when he went too roughly for his milk.

HEAT TROUBLE IN COWS.

Mr. HILL asked if any of the members had had any of these cases lately, as he had been called to several. All the cows showed nerve trouble, would walk a short distance and fall down, and he had three such cases in one week. He found that when they were placed in a

dark box and kept quiet for a day or two, they soon recovered.

FEES PAYABLE TO VETERINARY INSPECTORS BY THE NORTH RIDING COUNTY COUNCIL.

The SECRETARY said that he had written to the Clerk of the North Riding County Council, according to the instructions which he received at the last meeting, and had asked the Clerk to bring the fees which the inspectors would like altering, before the Executive Committee at their next meeting. The Clerk had replied that he would do as he was requested.

Since then, however, Mr. Pratt, Chief Veterinary Inspector for the North Riding County Council, had been to see him (the Secretary) and talked the matter over with him, and had pointed out that, in his opinion, it would be better to leave some of the fees as they were, as if altered it would be to the disadvantage of those inspectors who had long distances to go, in which case they were paid better, when paid by the hour, than if they received a fixed fee as in Durham.

Mr. AWDE thought that as there were so few North Riding inspectors present it would be better to defer the matter.

Mr. DUDGEON said that they in Durham were generally satisfied with the fees they now got, which were a great deal better than formerly, and he thought that this matter was one which concerned the North Riding inspectors, and that they should take the matter up.

Mr. HILL suggested taking a referendum on the points which they desired altering.

The SECRETARY said that he hardly thought the inspectors would take the trouble to reply. And in support of that he might say that when he called a special meeting of inspectors of the North Riding to confer with the inspectors of Durham County Council, only two, out of a possible sixteen, outside their Association, came to the meeting, the remainder ignoring the matter completely.

Mr. HILL suggested that perhaps if they called a meeting at some other place more might attend, and it was then generally agreed that a meeting be held at Northallerton on an early date, to which all North Riding inspectors be invited.

FINANCIAL.

The TREASURER presented the annual financial statement, which showed that the Association had a balance in hand of £10 6s. 10d. He said that he should like to thank the members for paying their subscriptions so promptly, as he was thus enabled to say that there was not a single outstanding subscription.

It was proposed by Mr. Snaith, seconded by Mr. Dudgeon, and carried, that the balance sheet be adopted and the accounts paid.

As the President-elect was not present the reading of his presidential address was deferred until the next meeting.

FOOT-AND-MOUTH DISEASE.

By W. AWDE, F.R.C.V.S., Stockton-on-Tees.

Foot-and-mouth disease — Aphthous Fever — is an acutely infectious disease which chiefly attacks ruminating animals, and pigs. It is also said to infect horses, dogs, and cats, and even poultry, but such cases are extremely rare, and have probably never occurred in this country. Cattle, pigs, and sheep, are the animals which are most affected by it.

Symptoms. From three to six days, as a rule, elapse from the time of infection (but in some cases from two to ten days, and in the case of the pig only one day) before the animal sickens. It is a sort of exanthematous fever akin to small-pox, measles, scarlet fever, and the like—that is to say, the disease begins with an ache

throughout the system, and a fever, which, after one to two days, is followed by an eruption. When this has come to a head the fever almost or entirely ceases.

The first symptoms, therefore, are that the animal seems unwell, eats less, and, if it is a milch cow, gives less milk. The temperature rises at once, but this fever only lasts a couple of days, and in slight attacks it may be quite low. Vesicles or bladders begin to form in the mouth, and occasionally on the lips, snout and nostrils, on the skin round the hoofs—in cattle mostly in the cleft between the hoofs—and in pigs mostly immediately above the hoof on the outside, and in the skin of the foot joint. In many cases the skin round the teats is also attacked and occasionally eruptions occur in the vagina in female animals.

The eruption consists in the formation of surface vesicles, the epidermis or the epithelium of the mucous membrane being lifted up in many places by an exuded watery liquid. The vesicles are small at the start, but usually increase quickly in size; this is especially the case in cattle and this fact seems to have some connection with the fact that the epidermis of these animals is very thick, especially between the hoofs and on the tongue, so that it offers greater resistance against the exudation pressure. The acute exudation, of course, causes pain, with the result that the animal goes lame, limps badly on the affected limbs, shakes its feet, lies down a great deal, and is unwilling to rise. Sheep and pigs sometimes creep about on their knees. Cows seem afraid to eat, keep the mouth shut, and make a loud smacking noise with their lips. Saliva forms in the mouth and dribbles out in strings. If the cow's mouth is opened—a process which she is apt to resist—the characteristic vesicles will be seen. They occur mostly on the surface of the tongue, especially on the flat part in front, but also on the thick part farthest back. The number of bladders or vesicles is not large, as a rule, often only five to six, but frequently they increase quickly in size. They are usually the size of a shilling to half-a-crown, and sometimes attain a couple of inches in diameter. Large vesicles are likewise often to be found in the fore part of the toothless gums of the upper jaw, and smaller ones on the inside of the lips, on the palate and cheeks, and less often on the underside of the tongue. As the epithelium on the back of the tongue is very thick it cannot be determined at first whether it really is a case of vesicles, but the eruption takes the form of large flat lumps covered by an apparently normal epithelium. If one tears a hole in one of these lumps, a clear liquid comes out. The epidermis can be loosened for some distance (sometimes one can tear away a piece of "skin" a couple of inches in diameter from the front part of the tongue) revealing a red—often very red—sore which is very apt to bleed. This exposure of the naked mucous membrane causes the animal sharp pain, which it shows by shaking its head violently, and at times it is driven quite wild. A little later the bladders burst by themselves without any such interference, and the loosened epithelium is detached, leaving large red sores. Often, however, the epithelium remains hanging on to either side of the sore, and, in its macerated whitish state, is then apt to present some resemblance to a loose croupous deposit.

Approximately the same process takes place in the cleft between the hoofs. Here the bladders or vesicles mostly begin at the back, but, as a rule, they combine into one immense bladder, which extends throughout the length of the cleft, and after it has burst and shed the whitish-yellow "boiled" looking epidermis, a large red sore is exposed.

On the teats the vesicles may at first be very small but numerous. Often there is an annular vesicle round the mouth of the teat itself. The eruptions when occurring on the teats often combine into large flat, somewhat

flabby, irregular vesicles of a whitish-yellow colour. These are easily torn in milking, and the epidermis soon cracks, as it is very thin at this point. The bladders are here also succeeded by reddish surface sores, which take some time to heal on account of the milking.

In other respects it may be said to be characteristic of the disease that it is very superficial. It amounts to a simple raising of the epidermis or epithelium of the mucous membrane caused by a serous exudation. There is no deeply-rooted inflammation of the mucous membrane or corium; the sore simply consists in the laying bare of the surface of these parts, and it has a natural tendency to heal quickly. In a case of a deep sore which destroys the corium or mucous membrane itself, the healing may be effected by the sore being filled with granulations, and the final healing may take place very slowly through the epidermis, gradually stretching out from the sides; but in foot-and-mouth disease there are always small patches of cellular tissue at the base of the sore, down between the papillae of the mucous membrane, and the sore may therefore in a very short time be covered with newly formed epidermis over the whole surface simultaneously. Thus it is found that these large sores can heal in eight days or less. The locality of the sore may, however, be traced for some time by a smooth, slightly depressed, thin-skinned patch, as, of course, some time elapses before the epidermis reaches its normal state.

Owing to secondary infection of the sore more severe inflammation may, of course, arise later on, but this occurs extremely seldom in the mouth, especially when the animal is given suitable, soft and clean fodder. It is more apt to happen when the disease attacks the feet, especially the hind legs, and when the animal stands in manure or dirt mixed with urine, as, for instance, in dirty stalls without litter.

Under such conditions deep gangrenous inflammation of the skin between the hoofs, sometimes even involving the tendons and joints, is frequently met with, and is due to infection with the necrosis bacillus which occurs so largely in manure. Other bacteria can, of course, also enter the sore and give rise to inflammatory processes. The teat sores may, as above stated, become irritated by the milking, and they are also liable to be infected when the animal's litter is dirty, and deeper sores may thus be formed, which will heal slowly. What is more dangerous still, bacteria may penetrate from the sores which frequently form on the tips of the teats into the lactiferous ducts and cause inflammation of the udder, which often leads to the destruction of one or more quarters. Apart from these complications which, under favourable conditions, and when the animal is well looked after, are not very frequent, the disease is usually not a dangerous one. The cow attacked by it is usually very ill for some days, eats little or nothing, gives little milk, which, however, contains more fat than under normal conditions, and becomes very emaciated; but about three to four days after the mouth complaint has begun she begins to eat well again, she grows fatter, and resumes giving a satisfactory amount of milk. The foot lesions often cause inconvenience a little while longer, but given favourable conditions these also heal surprisingly quickly, and most animals seem quite well again after one or two weeks.

Sheep and pigs usually have less violent attacks than cattle, and they are more liable to the foot disease than to the mouth disease, which often escapes notice. Pigs, however, often shed the entire horn of one or more hoofs, especially when affected animals are forced to walk.

In these circumstances is it not a very mild disease, which it is hardly worth while making such a fuss about? This was the general opinion in the old days. It was not until 1878 that the disease was scheduled as a contagious disease, for which the law required that infected cases should be rigorously isolated. Before

that time the public authorities usually did very little to prevent the spread of infection, and as a result the disease spread all over the country and was particularly prevalent about forty years ago. At that time I remember seeing any amount of animals affected with the disease, and they generally made good recoveries, although in the case of milk cows they usually lost flesh and the secretion of milk was arrested for some time.

It is quite natural that many a farmer whose stock has had the disease in a mild form thinks that the isolation is worse than the disease itself, but it is, nevertheless, with good reason that public opinion has undergone such a change during the last thirty to forty years. As a result it is now regarded as one of the most harmful diseases amongst domestic animals, and the greatest efforts are now being made to keep it in check whenever it makes its appearance. Although the disease is rarely fatal, it is acutely infectious, which makes it serious. When it is left alone it spreads to an enormous number of farms, and with the present quick and easy means of communication it might quite easily extend to nearly all the farms in a county if repressive measures were not adopted.

The great loss in connection with the disease is first due to the decreased secretion of milk. During the illness itself the yield of milk is nearly always greatly reduced, often to half the normal or less. However, as soon as the animal begins to eat again, it usually rises, but it is only in exceptional cases, after very light attacks, that the secretion of milk again comes up to the normal. Moreover, it is not unusual for a cow, when attacked by the disease whilst dry, to yield very little or no milk after calving, in spite of the fact that the udder is to all appearances healthy. The same may apply to cows calving whilst in the grip of the disease. In nearly all outbreaks some cows contract inflammation of the udder, with the result that many become more or less worthless for milking, whilst some cows get a malignant and persistent hoof complaint which weakens them greatly. A number of young calves and pigs die, as well as adult animals occasionally; abortion is also liable to occur; tuberculosis may sometimes suddenly attack a herd after it has been through foot-and-mouth, and, of course, the emaciation caused by the disease is a matter of great importance when dealing with cattle fattened for killing. In Germany the loss is put down at £2 10s., and in Holland at £2 per cow. To this must be added the fairly heavy expenses which are required for the proper care of the sick animals, and the difficulties in connection with trading.

OUTBREAK IN NORTHUMBERLAND, ETC.

To come nearer home to the recent outbreak of the disease in this county and the adjoining northern counties, as you know the disease was introduced from Ireland in cattle brought over from that country by boat, and the disease was not detected until after the animals forming part of the cargo were landed, and in some cases sold by the Irish dealers on to English farms. As many farmers depend entirely on Ireland to send them store cattle for grazing and feeding purposes, these animals were sent all over the country, with the result that foot-and-mouth disease appeared in several places at the same time. There is no doubt at all that the Irish dealers knew the animals had the disease when it first began to show itself after their arrival, and they did their best to get rid of them at some price or other, and succeeded only too effectively.

In one case which came to my knowledge, Webb, of Carlisle, sent a telegram to a farmer close to Alnwick telling him that he was sending him some cattle on by train, a thing he had never done before. Fortunately the farmer was a cautious man, and before their arrival he removed the stock all round the field where he proposed to put them, so that, although the cattle arrived

suffering from foot-and-mouth disease, or developed it very soon afterwards, as soon as the infected cattle were slaughtered out, there was little or no risk to his adjoining cattle, or to the stock belonging to neighbouring farmers.

The symptoms of the disease in Northumberland were not so well marked or so virulent as in some previous outbreaks, but as the animals were at grass keep, this might account for some of the slight differences observed. For instance, it was quite exceptional to hear a cow smack her lips, whereas previously, this was noticed in nearly all the cases seen. In some animals only mouth lesions were observed, and little or no lameness, whilst in others well marked foot-and-mouth lesions were found. I have seen a beast chewing its cud, and while it did so, observed that there was a sore on the tip of the tongue, and one three inches higher up left after rupture of foot-and-mouth vesicles had taken place; diagnosis in that case being a very easy matter indeed. In this country it is the custom to slaughter all affected animals and those immediately in contact, it may therefore be useful to give you an account of the procedure adopted by the Board of Agriculture in dealing with such outbreaks. Whenever a case of foot-and-mouth disease is reported to the Board, either by a local or a county veterinary inspector or by the owner, the Board immediately send one of their veterinary staff to see the animals and examine them. If after his examination he is satisfied that the diagnosis is correct, he then wires to the Board confirming the existence of the disease. On receipt of his report the local police are straightaway posted outside the field where the disease exists, and as soon as possible a valuer is engaged to value the animals it is proposed to take for the Board. The owner can also have his own valuer if he likes, but in every case has to agree to the valuation made, and to sign it before the slaughter is commenced. When farm buildings can be made use of for slaughter it is generally undertaken in them. In many instances, however, these could not be utilised on account of the distance between the fields and the buildings necessitating cattle being driven over roads, etc., and the operation had to be undertaken in the open fields, hangers being erected to dress the carcasses on, after which they were floated into barns or open sheds to hang till they were set and could be removed by motor lorries to town for food. These operations were undertaken by the lay staff, and the digging of cremation pits close by for burning the offal. In the case of affected animals where the carcasses cannot be utilised for food, they are cremated altogether, but otherwise only the heads and feet, viscera, etc., are burnt.

The veterinary staff superintend the examination of the carcasses, and say what carcasses are fit for human food, etc. They also examine all cattle in close proximity to the infected place daily for at least a fortnight, and then subsequently for another fortnight or so, every other day, and during the latter period extend the area so as to include all the stock within a very large area outside the infected place. Of course restrictions are placed on the movement of animals either into, or out of, the district outside an infected place in the first instance, and nothing is allowed to be driven either on or across a road. Animals fit for food are slaughtered in the fields where they are grazing, and the carcasses carted to the slaughterhouse. Movement of animals generally is prohibited, and any required movement of any kind can only be sanctioned by granting a license, and usually for slaughter only within four days. All persons going on to infected premises are warned, and are not allowed to leave without having their boots dipped into disinfectants. All those going on to the place where the disease has been, before the places have been disinfected, have to wear overall clothing, which must be left behind them, and either destroyed or dis-

infected before removal from the premises. All hides are soaked in disinfectants before being taken away. The fields themselves are quicklimed where there has been traffic, particularly about the pens and gateways where the slaughter has taken place. All trees and hedgerows up to a certain height, railings, posts, gates, and other woodwork are quicklimed or whitewashed with lime; the droppings, too, are covered with lime. After this has been done the fields are left without stock for some weeks. All dogs on infected farms are kept shut up while there is any risk.

How is the disease spread? As the disease has broken out several times of late years in this country, and the seat of origin could not be definitely stated, we are entitled to ask this question, and think that the answer might supply a useful discussion. The disease has generally occurred near the coast, notably at Yarmouth, and in Kent, etc.

In many of these outbreaks it has not been possible to trace the source of infection, although birds, such as rooks, gulls, etc., have been blamed for carrying it either on their feet or through the intestinal tract after scavenging. Other animals such as foxes, hares, and rabbits have also been suspected of carrying the contagion from one place to another by their feet. The greatest danger of all, in my opinion, is from the saliva and ruptured vesicles.

Since this was written I have noticed in the newspapers that foot-and-mouth has broken out at Ashford, in Kent, and at Birkenhead.

Mr. SNAITH said that he would like to thank Mr. Awde for his exhaustive and interesting paper. He would like to know if human beings ever took the disease, for he thought he had seen it stated that they did contract it.

Mr. DUDGEON complimented Mr. Awde on his paper and said that he was probably one of the few who had seen foot-and-mouth disease when it was very common indeed, and when there were no laws to suppress it. He well remembered as a lad when walking down the streets of Sunderland with his father that he pointed out to him on many occasions tongues of beasts exposed for sale which had suffered from the disease. As time went on the disease was taken in hand by the Privy Council and he remembered on one occasion when assistant-inspector at the Port of Sunderland examining a cargo of sheep which had arrived from Germany. One animal was found to be affected, and this he marked privately, and put on one side, and detained the whole cargo. He was of course threatened to all sorts of penalties by the owners, and the next day his marked sheep had disappeared. However, three days afterwards when the inspector from the Privy Council came down, there were quite one hundred affected, and therefore his action was fully justified. There was no difficulty in those days in finding typical lesions of the disease. After an animal had been affected with the disease it usually thrived better, and cattle dealers would tell buyers at the markets that this or that beast had had the disease, and they could get a better price for them.

Mr. PEELE said he was sorry that on account of being late he had not heard all Mr. Awde had said. He remembered when at College seeing the disease for the first time, for the Principal, then the late Sir G. T. Brown brought many post-mortem specimens from Deptford for the students to see. He was then in Class A, but he took care to attend all the lectures upon it, and was always glad that he had done so. He was engaged during the outbreak of the disease last year in Northumberland, and from what he saw of it then, he was inclined to think that the disease was only of a mild character, and probably that was the reason why the disease had been overlooked when it was in

Ireland. The lesions he saw were only slight, and the salivation and smacking of the lips not present so far as he saw.

Mr. DUDGEON quite agreed that the last outbreak was only a mild one, and in many cases the tongue lesions were not well marked. He remembered years ago in one case when in taking hold of the tongue to examine it, the whole of the epithelium covering came off in his hand.

Mr. Awde was heartily thanked for his paper, on the proposition of Mr. Hill, seconded by Mr. Dugeon, and in replying said that he believed human beings could take the disease by drinking milk from an affected animal, and when so affected had soreness of the mouth. If he remembered rightly an inspector in Ireland took the disease and was affected in this way. He was glad that the members had enjoyed his paper. It ought to have been given last year, soon after the outbreak in Northumberland, but time had been taken up at the meetings with other matters, and the paper deferred. One did not often come across the disease, but it was always well to be fully prepared with the symptoms in case one did.

The members subsequently had dinner together, and afterwards a musical entertainment was enjoyed, many taking part, and as time went on, much latent talent was developed.

JAMES H. TAYLOR, Hon. Sec.

SOUTH EASTERN VETERINARY ASSOCIATION.

A meeting was held at the Saracen's Head Hotel, Ashford, on Wednesday, September 10th, Mr. E. Lyne Dixson, M.R.C.V.S., Margate, presiding in the unavoidable absence of the President. Among the members present were Messrs. T. A. Huband, Sevenoaks; J. H. Ripley, Hurst Green; W. W. Gulleford, Lympne; J. M. Richardson, Deal; Robert Elliott, Cranbrook; T. Hibbard, Gillingham; G. W. Dunkin, Canterbury; W. B. Edwards, Canterbury; J. Basil Buxton, London; W. R. Emery, Guildford; G. Fordham, Ashford; J. B. Dier, East Grinstead; P. J. Austin, Pembury; Elmer Ebbetts, Rochester; H. P. Hogben, Folkestone; T. F. Hogben, Ash; C. Crowhurst, Maidstone; Percy Gregory, Tonbridge; W. H. Crowhurst, Canterbury; F. C. Gillard, F. C. Golden Folkestone; Gerald Wachter, Ashford; and Theo. C. Toope, Hon. Sec., Dover.

The minutes of the previous meeting were taken as read and confirmed.

The HON. SEC. said he was pleased to report that they had five names to add to their number. He believed when they had elected the five new members they would number 54. Mr. Toope then proposed the election of Messrs. A. L. Wilson, London; Robt. Elliott, Cranbrook; J. H. Ripley, Hurst Green; J. Washford, New Romney; and C. W. Howard, Dorking.

Mr. CROWHURST seconded, and the proposition was carried unanimously.

The CHAIRMAN said before they commenced the business of the meeting he had a very painful duty to perform. That was to propose a vote of condolence with their respected President, Mr. James Crowhurst. He was sure he was only voicing the opinion of that meeting when he said they all felt most deeply for Mr. Crowhurst in the loss he had sustained by the death of his wife, who took such a great interest in the doings of that Association. He therefore proposed that a letter of sympathy be sent to Mr. Crowhurst and his family in their bereavement. The Secretary had handed him a letter from Mr. Crowhurst, who wrote from Leamington:—

"To the Members of the South Eastern V.A.

Gentlemen,—I am exceedingly sorry to feel unable to meet you so soon after the loss of my dear wife. I feel the ordeal of receiving the expression of your sympathy would be greater than I could bear. I am, therefore presuming on your kindness, and ask you to excuse my absence. I sincerely trust you will have a good meeting and one full of interest.

May I remind you that the work taken up at our first meeting has not yet been carried to a successful issue. I allude particularly to the improvement of the fees offered by the Insurance Companies. There has been much improvement in the fees allowed by County Councils, and there might have been still more but for the carping of some pessimists. I am of opinion that we ought to persist in advocating the restricted use of tuberculin, and that it should be standardised.

I feel acutely the disappointment of not having the great honour and pleasure of presiding at the meeting on Wednesday, and ask you to pardon my absence.—With very kind regards, your obedient servant,

JAMES CROWHURST, F.R.C.V.S."

Mr. H. P. HOBGEN seconded the Chairman's proposition, which was carried.

The HON. SEC. said he had received letters and telegrams from the following members and gentlemen who were unavoidably absent that day: Messrs. W. Caudwell, E. Morgan, J. Washford, C. W. Howard, E. M. Perry, N. Almond, Major Bolton, A.V.C., J. B. Martin, H. H. Jeffries, William Shipley, C. Morgan, C. F. Hulford, E. W. Morris, M. Moss, Charles Roberts, F. Robards, W. Pitcher, W. Coveney, Alex. J. Todd, J. Bell, and Prof. Wooldridge.

The HON. SEC. said, in reference to the letter from Mr. James Crowhurst, it was necessary for him (Mr. Toope) to make some explanation as to what had been done in the matter of the fees paid by insurance companies. Acting as secretary of the southern branch of the National Society, he brought the question before the general meeting of that Society in London on July 29th, and moved that the work done by the committee appointed by the National Council be accepted as the scheme the National Council should be directed to act under in future. Since last year he had been continuously writing to the insurance companies. A meeting of the general council of the National would be held in London about October 7th or 8th for the purpose of adopting a scale of fees recommended by the committee appointed by the Council of the National. The committee thought fit, when they met, to allow the insurance companies time to discuss among themselves before making any definite recommendation. That was in May. He wrote to eighteen of the companies telling them what was suggested, and asking them to consider the matter. Until a week or a fortnight before the general meeting he could get no definite information from them, and then they said they wanted until October. They had given the companies until October. He wrote them on September 5th, and he had received in reply a letter from Mr. Essex, who evidently in that matter was acting as general secretary to all the companies concerned:

"London, September 8th, 1913.

Dear Sir,—We have yours of the 5th inst., and are we to understand that it is the Committee of the National Veterinary Association that is to deal with the question of fees, or the Committee of your Branch.

As already intimated, the meeting of Insurance Companies will not take place before October, so that it will not be practicable to make any definite statement by October 1st.—Yours faithfully,

B. S. ESSEX, Managing Director,
Imperial Insurance Co."

He (Mr. Toope) replied:—

"National Veterinary Association.

34 High Street, Dover, Sept. 9.

Re Insurance Fees.

Dear Sir,—The Committee referred to in my letter is the special committee duly appointed by the Council of the National Veterinary Association, and these gentlemen have provisionally adopted the scale recommended by the South Eastern Divisional Society, which scale will be brought up for final adoption in its present form (unless modified after your suggestions), and all members of the veterinary profession will be requested not to act under any other terms.—Yours faithfully,

THEO. C. TOOPE, Hon. Sec."

The policy of the companies had been one of delay and the only way he could get anything definite from them was to deal with them as he had done. He was hopeful, in the next month or so, of having some definite arrangement far better than existed now. It would be some assurance to their President to know that they were still working, still acting in that particular line.

The HON. SECRETARY said most of them would remember that at the last meeting, just after the death of their friend Mr. Roberts, he was deputed to attend the funeral. He did so, and he received the following letter from Mr. Charles Roberts, dated May 31st:

"8 Church Road, Tunbridge Wells.

May 31st.

Dear Mr. Toope,—My relatives and I wish to express to the members of the South Eastern Veterinary Association our deep appreciation of their kind sympathy, and to thank them for the beautiful floral tribute which they so kindly sent in memory of my late father. Will you kindly convey this message at your next meeting.—With kind regards, yours sincerely,

CHARLES ROBERTS."

The CHAIRMAN said before commencing the business which they had to deal with on the agenda, the first of which referred to the working of the Tuberculosis Order, he should like, as their Chairman *pro tem* that day, to congratulate themselves on the very good attendance they had. He thought compared with other veterinary associations they read of in the periodicals, their attendance that day exceeded that of some other Societies. He thanked them for their attendance and expressed the hope that they would discuss, as far as possible, the matters on the agenda, which were of great interest, so that they might go away all the wiser for that meeting.

The Tuberculosis Order had only been in existence four months—a very limited time—but during that time he had no doubt the majority of them had had abundant opportunities of getting considerable experience as to the working of the Order. There were one or two points which struck him in his own experience which he would like to, draw their attention to as they were all important.

Firstly, in his opinion there was a want of proper and systematic inspection of cowsheds. There were many cases of tuberculous cows unreported—and they were likely to be unreported—because inadequate compensation was given to the owner. They could not be surprised under those circumstances that so few cases comparatively came under their notice. It was no good having an order compelling one to notify disease unless there were inspectors to compel the owners to do so. As to the compensation of three-fourths or one-fourth according to the post-mortem results, it was his experience that where a cow had been condemned and the owner got one-fourth of the amount of the compensa-

tion through the carcase being condemned, invariably dissatisfaction was the result. Where the compensation was put at £10, and the owner received a quarter (£2 10s.), he usually said "If I have any more cases I will take good care not to report them. I will get rid of the cows." He had a case where he valued the animal at £12 if it had tuberculosis, and £24 if it were non-tuberculous, knowing full well when he valued it that it would not pass the post-mortem examination, and that the carcase must be condemned. That caused a letter to be sent to him from Mr. Prosser stating that the Board of Agriculture wanted to know why he put such a high valuation as £12 on a tuberculous animal. He (Mr. Dixon) pointed out that the cow was giving three gallons of milk per day. He knew that the cow would be condemned and that as the net amount the owner would receive was a paltry £3, he did not think he had overvalued the animal. He would like to ask them what had been the best means of aiding them in diagnosing the disease, whether it had been by clinical, bacteriological, or biological examination, or by aid of the tuberculin test. He had had ten cases in the course of the four months. Of those, two cases were tuberculosis of the udder. Samples of the milk were taken and sent to the medical officer of health in both cases. One was positive and one negative. In both cases they reacted to the tuberculin test and both were condemned, and both carcasses were passed for food. Of the other eight cases one was diagnosed by clinical examination only and the carcase condemned. The remaining seven were condemned by the aid of the tuberculin test. Five were passed and two rejected. In one case of the five passed (a cow in the borough in which he passed the carcase) the sanitary committee would not sanction the use of the flesh for food as they said, as an authority of a health resort, they would not sanction the consumption of a cow that had been condemned by their veterinary inspector for tuberculosis. They therefore awarded to the owner three-fourths, and had the animal buried.

The HON. SEC. said a question had occurred to him in the course of carrying out the Order, and that was the difficulty of reporting the case when outside their district. He was looking at the question now from the private practitioners' point of view. He had three or four cases of tuberculous udder, two of which gave positive evidence on milk examination. Both of these animals were well bred and in good condition; in fact, one was fat with her third calf. He suggested to the owner that he should report the cases, and if he did not, he (Mr. Toope) would have to do so, as the owner said: "If you do, you don't come on my premises again." The Act said they must report, but would they do it for half-a-crown in the face of their client's opposition, who would go elsewhere? He should think twice before doing so. He should advise the owner to report, and in such cases stop the milk supply. He thought that was the only course they could adopt at the present time. That was looking at the matter from the veterinary practitioners' point of view. From the inspectors' point of view it was another matter.

A gentleman, who was a member of their Society, had called his attention to an advertisement in *The Veterinary Record* announcing the fact that a Dorking chemist undertook the milk examination for any veterinary surgeon who cared to send samples to him, and had informed him that some Surrey veterinary inspectors were doing so. He (Mr. Toope) maintained that it was a disgrace to the Surrey veterinarians if they were doing so, for the reason that they had this thing thrust in their hands and would not use it. They were unlike the Kent veterinarians who were asked to send their samples to Maidstone. In Surrey the thing was in their own hands, and yet it appeared they could not spend an hour to do the work and raise the profession

in consequence, but were sending the samples to an analytical chemist. He should like to mention names, but he thought he had better not. He should like it to go further, and for the meeting to say that they recognised that it had been done, but that they did not approve of it. They, in that Association, fought for the whole duties under the Act, and yet some seemed to throw away the chance of carrying out those duties when they had got them.

Mr. EMERY said when the market inspector went round the market and found an animal that was diseased he could have it transferred to the hotel yard, and send for the owner of the animal to see it, and if he were willing to have it killed he made no claim for compensation. The animal was sent straight away to the knacker's yard and destroyed. If the owner thought they were not dealing with him well, then the inspector had to give notice to the police and go through the usual form which entailed some trouble to all concerned. He thought the best way was to get the owner to agree to having the animal destroyed, and then as far as the valuation was concerned, not a farthing was asked. With regard to the statements that Surrey veterinary inspectors were going to Dorking to have their tests made, the previous week was the first time he saw the advertisement, and he was surprised to see it. The meeting could take it from him that none of the veterinarians from his district sent anything to Dorking to be tested. He knew that none of his neighbours did it, and he did not think it right to attach to them the stigma that they were incapable of doing their work, or that they had applied to some outsider, because it was not so. He did not wish it to go forth that they were not doing their duty to the Government, or to their clients and other persons. He could not take that in. (Applause.)

The HON. SEC.: I have the names of two who sent samples to Dorking.

Mr. EMERY: That is a small proportion.

Mr. GREGORY said with regard to the stopping of suspected animals in market, he thought it behoved them to be extremely careful. Since the Act had come in, he had had to stop four animals in a public market. He always took special care when stopping suspected animals to see that the sergeant on duty was with him who could bear out in evidence what he (Mr. Gregory) said. In the first instance he impressed on the owner that he did not condemn his animal as tuberculous, but that in his opinion she was in such a suspicious condition that he could not allow her to be sold. He thought if they did that, there would be no chance of an action being brought against them for wrongful detention, as the animal might be suffering from John's disease or some other wasting disease. In stopping animals in the public market they could not be too careful.

Mr. HIBBARD said with regard to the question of compensation, at a previous meeting it was pointed out that they must make a first valuation of the animal as being non-tuberculous, and in the event of the animal being tuberculous, he believed a quarter of that amount should be put down. At the time he remembered he suggested that it was then unknown whether the authority would consider the compensation to be paid was to be based on the higher valuation or the lower. No one seemed to know anything about it, but some time afterwards he had a case of two cows. He saw his friend Mr. Ebbetts, who said "Depend on it they will only give compensation on the lower valuation." That was his (Mr. Hibbard's) idea. He valued the animals at £22 and £23, and in the event of their being tuberculous at £5 10s. and £5 15s. On the result which was obtained by the tuberculin test they were destroyed. The carcasses were disposed of, after the tuberculous parts had been condemned, for £17. The compensating authorities pointed out that they suggested giving three-fourths on the lower valuation, namely, three-fourths

of £5 10s., and three-fourths of £5 15s., but they already received £17 for the carcasses. Was it fair that the owners should have that amount when the Council had already received £17? Unless he received some more information, what he contemplated doing in future was to value the animals on what he considered his client would get if the animals were tuberculous.

Mr. HUBAND said he would like to ask for his own information if it was a fact that under the Act an owner on being cautioned had the option of having his animal destroyed at once without compensation or whether having been notified he was compelled to allow that animal to go through the usual process of valuation, examination, and so forth. He had been reading a report in *The Mark Lane Express* of a case in which an owner, who was also the auctioneer in this particular case, had an animal in his market which the inspector stopped, and gave the owner notice that it was a suspected animal and ordered it out of the market. The owner did all he could to assist the inspector, but according to the letter, the animal was taken away and the owner offered to have it destroyed at once, and bear the loss himself, but according to his (Mr. Huband's) reading of the report, the owner was not allowed to do so. He would like to know whether it were universally allowed for an owner to save all further trouble to do as Mr. Emery had said and have the animal taken to the knacker's, have it despatched and let the matter come to an end. In the case he was referring to, the owner was willing to have the animal destroyed. The animal was tested on the same day and found not to be affected, but in spite of that, he was prosecuted for obstructing the officer in carrying out the Act and he believed was fined £3 and costs. He believed it was customary in one part of the country to allow animals to be destroyed should the owner wish it, and no further questions asked, and he thought that ought to be universal, but he was not sure if it was so.

Mr. GULLIFORD: That is so by the Order.

Mr. EMERY said in his friend's case the animals were so emaciated that they were not worth more than a £1. He thought that the farmer should have some of the benefit because farming was not the best of industries.

Mr. GREGORY said some six weeks previously he stopped a very emaciated cow in the market and had her put down in the corner, the owner not being there. He telegraphed for the owner, who asked him whether he could have the cow killed at once. He (Mr. Gregory) said he could. The animal was killed and taken away. He (Mr. Gregory) reported to the authorities what he had done, and he had heard no more of the matter, beyond the fact that he went down to the farm and examined all his stock to see whether there were any other cows affected: if the cow came from one district into theirs they must report it to the other district.

Mr. EBBETTS asked if the owner said he would have the animal killed, could they go and inspect the other animals on the farm?

Mr. GREGORY: Yes, because it came out of his herd at home.

Mr. EBBETTS: I did not know that we were bound to inspect the other stock at the farm.

Mr. GREGORY said it was in the Act that where an animal had just come from a herd, they must go and examine the other animals. He had done it and the county had paid him.

The CHAIRMAN said Mr. Huband's question was an important one. He thought there was no doubt that an owner had the right to have an animal slaughtered if he liked. He took it that a veterinary surgeon did not inspect all the cows. If he condemned one, or the owner chose to have it killed, the veterinary surgeon would have no *locus standi* to go round unless he went officially.

The HON. SEC. said if a case was reported to the veterinary surgeon then it was his duty to go, but if it was not reported then he had no right to go to the farm, so he read the Order.

Mr. DIER said he had a case of tuberculous udder come to market, and he asked the superintendent to serve a detention notice on the owner. It was agreed that the cow should go back, but the owner thought he could sell the cow there and then to the knacker. If he had, there was no possibility of knowing whether the cow was killed or taken away. The owner took it back and then rung up and said the cow had been taken home. He (Mr. Dier) took a sample of milk and said it was no doubt a case of tuberculous udder. The owner asked whether he was bound to let the police deal with the case. He (Mr. Dier) asked him if he would like to have the animal killed and he said he would. He told the owner that he considered it his duty according to the Order to examine the remainder of the herd. He did so and found another cow with a diseased udder. The owner, who was a good client of his, said he was sorry he had picked on that particular cow because it was his best milking cow, and said he was not satisfied with the microscopical examination, and asked him to apply the tuberculin test. He (Mr. Dier) said he did not think the County Council would object, and he applied the tuberculin test and got a distinct reaction. Mr. Dier mentioned that at the present time they did not know what fees the East Sussex County Council allowed them. The veterinary profession submitted a scale of fees, but they had heard nothing further, the County Council saying that they would hold the matter over until next quarter.

Mr. EBBETTS said he saw in the market an animal he suspected, and he told the owner who said he would have it killed. The animal was killed, but he (Mr. Ebbetts) was not aware that he was supposed to go and examine all the man's cows as well. He would like that point made quite clear.

Mr. DIER said if a cow that he suspected came to market from his own district he served a detention notice. If the cow went back to the owner's place, he took it it was his duty to go and examine the herd, but if the cow went into another district he notified that district and the inspector there went and examined the other cows.

The HON. SEC. said where they found a suspected cow in the market and the cow was taken back to the herd from which it came, he took it that it was their duty to follow it, but not so if destroyed when found.

Mr. HIBBARD said it seemed to him that the animals the suspected cow came in contact with were those in the herd from which the cow came.

The HON. SEC.: The law does not state that.

The CHAIRMAN said there was a way out of the difficulty. They did not want to suppose anything, and he thought the best way would be for the Secretary to write to the Board of Agriculture and ascertain in any case of doubt or difficulty what their powers were in that direction. He would move that the Secretary write to the Board of Agriculture for advice on any question of doubt that arose in the course of that discussion.

Mr. T. F. HOGGEN: Would it not be better to refer the matter to Mr. Prosser?

Mr. GREGORY said with all due respect to the Secretary, he could not agree with him that they had no right to examine the animals where the suspected animal had come from. They had the right, and if it were not stated in words it was implied. The animal he had referred to was a mass of tuberculosis, and within an hour had come right out of a herd of milking cows. He was acting officially as inspector, and as inspectors he contended that they were bound to follow up a case

thoroughly and examine the animals that it had been in contact with or the whole thing was useless.

Mr. EMERY said as local inspectors of the markets he did not think they had a right to follow animals to any premises.

Mr. GREGORY : It applies only to animals in inspectors' own districts.

Mr. EMERY : Then undoubtedly he has the right.

Mr. H. F. HOGGEN instanced cases that had come to his notice. One owner said the next time he should kill the animal himself and so not have all the trouble. That showed how some owners looked upon the working of the Act.

The HON. SEC. said if the suspected animal was killed outright where found, they were done with it, and they would not have to proceed further.

Mr. DIER said he thought by the explanatory letter that was sent to them they were supposed to examine the cows at the farm from which the suspected animal came if in their own district.

Mr. HIBBARD said if the animal was taken to another district then they had to send information to the inspector in that district.

Mr. GREGORY said it was their duty to state the number of other animals on the premises.

The HON. SEC. said if an owner destroyed at once a cow found in the market by an inspector, had the inspector power to visit the farm or cause the farm to be visited by another inspector provided the animal proved tuberculous. That was the real question raised.

The CHAIRMAN'S proposition, that the Secretary should write to the Board of Agriculture for advice on the points raised in the discussion, was carried.

JOHNE'S DISEASE.

ELMER EBBETTS, M.R.C.V.S., Rochester.

Mr. Chairman and Gentlemen,—Mr. Toope strongly impressed upon me the fact that a short paper was all that was necessary, so I am only going to point out a few facts: still, I hope that my remarks will lead to a good discussion, as I shall leave a lot to talk about.

For many years I have seen cases of John's disease, and for many years I have diagnosed them wrongly. A client would send to come and see a cow that was purging; on attending and asking questions one was invariably told that the animal had been suffering from diarrhoea for a long time. I used to think that I had a case of parasitic enteritis to deal with, or more often used to pronounce it tuberculosis of the intestines; anyhow, the case was most unsatisfactory as the patient never recovered. As time went on I heard of John's disease. I will tell you of one case which was the means of my first knowing the disease, the history of which will help to explain symptoms.

A client asked me to see a three-year-old heifer that was purging. I examined her, and fancied that I had a case of the then newly named John's disease. I told the owner my opinion and obtained his permission to have the heifer at my infirmary. By the aid of that most valuable test—tuberculin—I soon satisfied myself that she was free of tuberculosis. The symptoms were that the animal looked unthrifty, had a harsh coat, and continued diarrhoea, the faeces were of a frothy, bubbly nature, as if air had been pumped in, and had a fetid and very disagreeable smell. She fed well and ruminated naturally, but kept getting more and more emaciated.

I tried all sorts of remedies, but nothing did any good. After about three weeks I had her killed and made a post-mortem examination. Most of the organs were perfectly healthy, but on examining small intestine I found considerable thickening of the mucous membrane which I at first took to be chronic enteritis, but there was a peculiar corrugated, convoluted appearance which

was uncommon. I sent a portion of intestine to the College, and Mr. Sheather kindly wrote saying "I have examined the portion of intestine microscopically and find that it was undoubtedly affected with John's disease. The wrinkled appearance of the mucous membrane is characteristic of the disease, and this specimen is richer in the causal organism than any I have seen." I have here a portion of intestine taken from the same heifer, and as it is well preserved I hope it will interest you.

The disease is now known to be caused by a specific bacillus, which was first discovered by Professor John. Sir John McFadyen named it after the Professor, a pretty and well-deserved compliment. The causal organism enters the system through the mouth, taken in either with the grass or water, and is mostly, if not entirely, found located in the intestines and mesenteric lymphatic glands. I do not consider the disease very hard to diagnose, as we have tuberculin to tell us it is not tuberculosis, and the bacilli being present in the faeces makes the microscope a valuable aid. The bacillus greatly resembles that of tuberculosis, but this need not trouble us, as if we have no reaction to tuberculin we know that we have not the tubercle bacillus to deal with.

An animal may be affected with both diseases, then such a case would come under the Tuberculosis Order, as the animal would be emaciated. I know the disease is supposed to be highly contagious, but that is not my experience, as I have often had a single case occur in a herd: in fact, in a conversation I had with the owner of the heifer I had at my infirmary, he said he remembered the case well, but although he had had hundreds of bullocks since, he had never seen another. Sheep may, and in some districts do, become affected; I wonder if the cases of emaciated sheep we often see may not sometimes be due to it. The incubation period is supposed to be long, sometimes a year or more, but this is not always the case as I have seen it in a yearling. So far no curative remedy has been found, but I believe a product of the bacillus has or will be made that will help diagnosis as tuberculin does.

Well gentlemen, I have told you nothing you did not know, and no doubt many of you know a great deal more about the disease. Such being the case, I hope we shall have a good discussion. I thank you very much for the kind way you have listened to my few remarks, and if you think such as these are worth reading, I am sure Mr. Toope will have no difficulty in getting plenty of papers.

DISCUSSION.

Mr. HUBAND said his experience was entirely in accord with that of Mr. Ebbetts. He believed it was Sir John McFadyen who confirmed the existence of that particular disease. It explained to his mind, as it did to other practitioners in country places, and was a satisfactory explanation of the difficulty they had in cases known as piners—which word indicated the condition very well. The essayist had put it very clearly and in a practical manner. He was sure one of the advantages of such an Association as theirs, was that every member of the profession could be fully acquainted with every recent discovery in connection with the profession.

Mr. J. BASIL BUNTON : I rise, sir, in response to your invitation, but I fear that I have nothing to add which would be of interest from a clinical standpoint. John's bacillus, as is now well known, will grow on various special media, such as those containing the dried ground-up bodies of dead human tubercle bacilli or bacillus phlei with egg and mace, and later in glycerine liver or beef broth. After prolonged subcultivation, this organism will grow quite easily on the surface of ordinary glycerine agar or brain agar. When it has acquired the property of growing on these media, the

growth tends to lose its moist appearance (resembling tubercle bacilli of the avian type) and to assume a dry and sometimes hard character, resembling in some cases very closely the method of growth of tubercle bacilli of the human, or even bovine types. With regard to the diagnosis of John's disease, there seems to be good reason to believe, as a result of the valuable work which has recently been done, that at an early date a diagnostic agent will be prepared which will be as specific for this disease as tuberculin is for tuberculosis.

Avian tuberculin, which was once recommended, has now been practically discarded. It was found that a tuberculin prepared from strains of tubercle bacilli from the lower animals (bird or fish) would, if used in sufficiently large doses, give reactions in tubercular infection of mammals. Further it was shown that ordinary broth when injected in similar quantities would produce a rise in temperature similar to that of the tuberculin. The more recent diagnostic vaccine, as it is called, has apparently given more satisfactory results, but there even yet seems room for a more perfect agent. It seems reasonable to suppose that when this organism can be induced to grow freely under conditions which are favourable to it, its metabolic products will be as specific in diagnosing this disease as the metabolic products of tubercle bacilli are in diagnosing tuberculosis. From the evidence available from various laboratories it would appear that the agglutination and complement fixation tests would prove of even greater help in diagnosing the complaint.

As to the cure of the disease, I have no doubt that at an early date there will be several curative vaccines on the market, but before any conception of their value can be formed, an enormous amount of experimental work will have to be carried out.

The SECRETARY said he met with the disease some years ago, when he was in Yorkshire, and like others, he attributed it to a form of tuberculosis of the bowel. In some districts it was exceedingly rife in some years; in one valley he got from twenty to thirty cases, then for a year or two he would get but few. He had never seen it in an animal under three years' old. One very old farmer told him it had been recognised as existing occasionally in that district for years; he called it "blind scour," and the animals affected were known as "wastrels" or "skiters." Once having diagnosed the disease, the veterinarian's services usually ended, the owner usually said, "If it gets no better in a week or two, I will have it destroyed"—a wise solution generally.

Two cases have come under notice during the past eight months, and in neither had he any great difficulty in diagnosis, during life or post-mortem. In some cases of emaciation Sir John M'Fadyen advised a double test: first with ordinary tuberculin, and if no reaction is obtained, a second test with Avian tuberculin; if the second reacts there is some proof that John's disease exists.

Another method is by subcutaneous injection of Avian tuberculin, and the simultaneous ophthalmic test with bovine tuberculin. If the eye reaction were well marked, they could conclude tuberculosis was present; if the other reaction occurred, they could conclude John's disease was present.

The lesions in the early stages were small and not always easily made out, and confined to the mucous and sub-mucous structures, generally of one section of bowel only, and the lower third of it: lesions later appeared in the larger bowel, and only when diarrhoea had set in did they find much indication of corrugation of the bowel. In many cases emaciation was marked before the diarrhoea appeared to be excessive. He had a case now which, although it had reacted to tuberculin, he thought might possibly be associated with John's disease from its previous history.

Another point was that John's disease was very rarely associated with pulmonary indications or a cough, whilst only very rarely was tuberculosis accompanied with diarrhoea. These two facts were of much clinical importance. Both diseases could, and did, exist at the same time, and when so, we got the characteristic tuberculin reaction unmodified.

When both existed they could distinguish the separate lesions after death, because John's was confined to the bowels and their glands (only once had it been found elsewhere), the lesions too being free from caseation or calcification, which was never found in John's disease.

As our essayist has pointed out, there is another disease which causes emaciation on a persistent diarrhoea (and one frequently met with in my district), due to the presence of the strongylus convolutus in the fourth stomach. It is confined to young animals, generally under eighteen months' old, but on one occasion I saw it in several older ones, from drinking from an infected pond, their only source of water being surrounded by a veritable bog.

If one adopted Avian tuberculin in diagnosis, a larger dose was required, and the temperature chart would not read so high as with bovine tuberculin in tuberculosis.

The CHAIRMAN said little or nothing had been said about the treatment, which was the principal thing that concerned most of them.

Mr. BUXTON said he thought it was quite possible that before many months, a metabolic product would be introduced with that end in view, but it was not yet perfected as far as he knew.

Mr. GREGORY said he had always been puzzled about the disease, which he had known for many years. He thought their scientists might be able to prepare a vaccine that would counteract the disease. That was an instance in which the Government ought to help in a considerable degree, but he was afraid it was useless to hope for much in that direction.

Mr. EMERY said in the west of England the profession largely used sulphate of copper, and other tonics without much result.

The CHAIRMAN proposed a vote of thanks to Mr. Ebbetts for giving them an essay on that important disease. They were greatly indebted to Mr. Ebbetts, and he thought it would be an inducement to the other members to read papers to the Association, and he hoped they would all have the opportunity to further the interests of that Association by bringing forward interesting matters.

Mr. H. F. HOGGEN seconded the vote of thanks, which was carried unanimously.

Mr. EBBETTS, in acknowledging the compliment, said it was a pleasure to him to do anything to further the interests of the Association. He had only written a short paper, but he thought a good discussion on a short paper was all that was necessary.

New Member. Mr. GERALD WACHER was elected a member of the Association on the proposition of Mr. Gillard, seconded by Mr. Dunkin.

Next Meeting. The SECRETARY said the next business was to select a place for the holding of the next meeting, which would be their annual gathering, and he hoped it would be a social function, and that the members would bring their wives and lady friends. It was suggested at their first meeting that the meetings should be held in East Kent and West Kent alternately, and he thought for the next meeting they could not find a more central place than Tunbridge Wells, where they had a very good meeting the last time they went there.

On the proposition of Mr. Dier, seconded by Mr. Emery, it was decided to hold the next meeting at Tunbridge Wells on the second Thursday in January, 1914.

SPECIMENS AND CASES.

The CHAIRMAN produced the heart and the two kidneys of a young heifer. The general condition of the heifer was such that it was apparent that it had some organic trouble, and the owner decided to have her destroyed. In comparison with other heifers she was not half the size. The post-mortem proved tuberculosis of the kidneys.

The Chairman also brought a large tumour, weighing over a pound, which he took from the flank of a cow; also a piece of wire which he took from the rectum of a dog.

Mr. W. H. CROWHURST produced an interesting specimen of a hoof and diseased pedal bone.

Mr. H. F. HOBGEN told the meeting of a polled Angus cow which he was called to attend. He explored and found the two fore legs, and one other—a hind one. He fixed cords on and attempted to withdraw the calf which was dead, but he could not get it out because he found this hind leg would come up. Eventually he got the head and fore legs out as far as he could and put a strong rope round its neck, and withdrew the calf. He found that the trouble was due to its being deformed from the region of the spine and one of the hind legs. He had brought a portion of the calf for the inspection of the members.

Mr. DIER exemplified the recuperative power of some animals by the case of a small terrier bitch that his partner had attended. The bitch, he said, had been trying to whelp for two days, but could only get away a portion of one shoulder, and then the lower quarter. He accompanied his partner, and he told the owner that it was a hopeless case, but that if he chose he would do what he could with Caesarean section. The owner would not decide then (Friday), and although he asked the owner twice to allow him to operate he would not decide to have an operation until the Thursday following—and yet the owner called it a favourite bitch. (Laughter). He injected two grains of morphia. He exposed the fetus, but he was afraid the bitch would collapse during the operation. He might say he was taking the same pains that he would have taken if he thought the case was going to be successful. After the operation he put the dog in a small box and the next day it looked up. They offered it beef tea and it started lapping. In a fortnight the wound had healed up, and at the present day the bitch was running about as well as could be.

Mr. HUBAND said on the previous Monday morning he was turning out at eight o'clock when he was informed that a cart horse of his was nearly dead. He went down to the field and found the horse had commenced ploughing when he went into a state of collapse. Evidently he had an obstruction in the throat. He had nothing but a pocket knife with him, but with it he opened the trachea. He held it there for a short time until the horse plunged about and a considerable quantity of frothy mucus was ejected, mixed with blood. Much to his surprise the noisy breathing became less marked, and in a short time the horse recovered. No doubt he ruptured a blood vessel in the lungs. If he had not had some knowledge of the science of which they were all so fond he would have lost the horse.

In conclusion, Mr. Huband proposed a cordial vote of thanks to Mr. Dixon for the able manner in which he had presided that day. They all deplored very much indeed the sad reason that caused the absence of their genial President, but he was sure they would all agree that they could not possibly have a more excellent or efficient substitute. (App.)

The SECRETARY, in seconding, said he was very pleased when Mr. Dixon responded to the call.

The vote having been carried unanimously, Mr. Dixon made a brief response, in which he said he only

regretted the cause of his having to take the chair that day.

A large selection of microscopic preparations of John's disease, tuberculosis, anthrax, glanders, and other bacilli and their lesions from the collection of Messrs. Dixon, Morris, Toope, and others, were exhibited in the room, and were inspected by the members in the limited time at their disposal after the discussion. That the branch of study deserves more attention at society meetings was the opinion generally expressed.

THEO. C. TOOPE, Hon. Sec.

The Ration of the Troop Horse.

The troop horse's ration is 12lb. of hay, 10lb. of oats, and 8lb. of straw (or its equivalent) per diem. Everyone is aware of this fact (says the *Army and Navy Gazette*) and everyone is equally aware that it is insufficient. Every horse-master knows that it is impossible to expect any horse to work well and look well on such a miserable allowance. It is meagre enough for the aged horse doing his legitimate work, and it is still more so for the remount, who not only has to be trained, but has to develop bone and muscle. "It is a miserly and short-sighted policy to treat our Government horses thus, because it is not even economical. A horse, when insufficiently fed, breaks down under the strain of hard work and swells the ranks of the unemployed in the sick lines and the lists of horses for casting. If only five fewer horses per regiment were cast every year it would represent a saving of not only the difference between purchase and sale price, which would be about £150, but also the forage and attendance necessary for them when they were sick and unable to earn their feed." And yet an extra £150 per regiment, adds the writer, would go far in helping the forage account and in making regiments more efficient for war.—*Horse and Hound*.

Personal.

THEXTON—ALEXANDER.—On September 3rd, at St. George's Church, Kendal, Percival Thexton, M.R.C.V.S., of Pontefract, to Jeannie, second daughter of Mr. Wm. Alexander, of the Homestead, Kendal.

Mr. G. P. MALE has been invalided with trouble of the appendix.

Mr. HARRY REDFORD is still feeling the effects of his accident in July, and is unable to take up his full round of duties.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, Sept. 16.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Lieut. W. T. Brookes resigns his commission. Dated Sept. 17.

Sept. 12.

REGULAR FORCES. ARMY VETERINARY CORPS.

Major W. A. McDougall, F.R.C.V.S., retires on retired pay. Dated Sept. 24.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Maj. W. A. McDougall, F.R.C.V.S., retired pay, Reserve of Officers (late of the A.V.C.), is appointed Assistant Director of Veterinary Services of a Territorial Division; Maj. McDougall is granted the temporary rank of Lieut.-Col. in the T.F. whilst holding the above appointment. Dated Sept. 24.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders † (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals	Outbreaks	Animals	Outbreaks	Animals	Outbreaks	Outbreaks	Slaughtered.*
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
GR. BRITAIN.													
Week ended Sep. 20	12		14				3	3	20	35	1	46	543
Corresponding week in	1912	6	8		1	26	1	1	22	36		28	472
	1911	16	16				3	8			1	48	456
	1910			23			10	21			4	25	158
Total for 38 weeks, 1913	402		414				122	304	1979	3959	133	1836	24377
Corresponding period in	1912	589	670		78	589	135	248	2403	5175	175	2318	30552
	1911	628	779		8	425	148	346			310	1888	21973
	1910			1064	2	15	280	839			348	1062	9630

† Counties affected, animals attacked : London 3.

Board of Agriculture and Fisheries, Sept. 23, 1913.

IRELAND. Week ended Sep. 20	...	...	...	...	...	...	...	...	Outbreaks	...	7	...	...
Corresponding Week in	1912	...	...	1	1	...	...	...	...	1	3	9	...
	1911	...	...	...	...	...	...	...	1	3	5	91	...
	1910	...	...	...	...	...	...	...	2	3	...	...	...
Total for 38 weeks, 1913	...	...	...	...	...	...	...	...	102	390	113	685	...
Corresponding period in	1912	...	3	3	28	261	...	...	53	265	183	1508	...
	1911	...	7	14	...	...	2	3	52	261	102	1708	...
	1910	...	5	8	...	...	1	2	58	358	73	1707	...

* These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Sept. 22, 1913

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

OBITUARY

WM. CHAS. ISON, M.R.C.V.S., Atherstone, Warwickshire.
Graduated, Lond: May, 1860

Mr. Ison had been in practice at Atherstone since 1860 up to his death which occurred on Sept. 23rd. He was 73 years of age.

Much regret has been occasioned in Salisbury by the death of Mrs. Harding, wife of Mr. E. R. Harding, Veterinary Inspector to the City Authority. About two months ago Mrs. Harding underwent an operation for appendicitis, and was making a good recovery when she was unexpectedly seized with paralysis. Her condition encouraged the hope that she would recover, but on Sunday morning, 14th inst., another seizure proved fatal. Mrs. Harding came to Salisbury on the occasion of her marriage nearly 25 years ago.

The funeral took place on Wednesday afternoon at the Devizes Road Cemetery amid many signs of sorrow and respect.—*The Salisbury Times*.

Veterinary Societies—Addresses.

BORDER COUNTIES V.M.S.

Pres: Mr. J. W. Hewson, M.R.C.V.S., Wigton

Hon. Sec. (pro tem.): Mr. F. W. Garnett, M.R.C.V.S., Dalegarth, Windermere

Meetings, Second Friday of Feb., June, and October

NORTH MIDLAND VETERINARY ASSOCIATION

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Hon. Sec: Mr. J. S. Lloyd, F.R.C.V.S., Sheffield

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Pres. Principal McCall.

Hon. Sec. Mr. J. Gibson, 16 Overdale Gdns, Langside, Glas.

ROYAL VETERINARY COLLEGE M.A.

Pres: Dr. Lander, D.Sc.

Hon. Sec: Mr. B. Gorton, M.R.C.V.S. Assist. Mr. T. J. Davis

ASSOCIATION OF VETERINARY OFFICERS OF HEALTH

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Hon. Sec. & Treas. Mr. A. M. Trotter, M.R.C.V.S., Moore Street, Abattoir, Glasgow.

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Hon. Sec: Mr. Trevor Spencer, M.R.C.V.S., Kettering

NATIONAL VETERINARY BENEVOLENT & MUTUAL

DEFENCE SOCIETY.

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Hon. Sec: Mr. G. H. Locke, M.R.C.V.S.

Grosvenor Street, Oxford-st., Manchester

Treas: Mr. J. B. Wolstenholme, F.R.C.V.S.,

Quay-street, Manchester

VICTORIA VETERINARY BENEVOLENT FUND.

Pres. W. Freeman Barrett, Esq. Fountain Ct, Temple, E.C.

Hon. Sec. & Treas: Mr. W. Shipley, F.R.C.V.S.

South Town, Great Yarmouth

COLONIAL SOCIETIES (continued next page)

VETERINARY ASSOCIATION OF NEW SOUTH WALES.

Pres: Mr. S. T. D. Symons, M.R.C.V.S., Chief Insp. of Stock

V. Pres: Prof. T. D. Stewart, M.R.C.V.S., B.V.Sc., Syd.

Hon. Sec. & Treas: Mr. Max. Henry, M.R.C.V.S., B.V.Sc. (SYD).
56 Bridge Street, Sydney.

NATIONAL VETERINARY ASSOCIATION

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Sec. Mr. William Hunting, F.R.C.V.S., London, S.W.
Assist. Sec. Mr. W. L. Harrison, F.R.C.V.S.,
 11 Anchor Terrace, Southwark Bridge, S.E.
Treas. Prof. G. H. Wooldridge, F.R.C.V.S.,
 Ryl. Vet. Coll., Camden Town N.W.

Northern Branch:

Pres. W. A. Taylor, (F) Brick Street, Manchester
Hon. Sec. A. W. Noël Pillers, (F)
 74 Smithdown Lane, Liverpool
LANCASHIRE V.M.A.
Pres. Mr. G. H. Locke, M.R.C.V.S.,
 Grosvenor-street, Manchester
Hon. Sec. Mr. J. W. Brittlebank, M.R.C.V.S.,
 Town Hall, Manchester
Hon. Treas. Mr. E. H. Stent, M.R.C.V.S., Preston-st, Hulme
Meetings, 1st Thursday in April, June, Sept., & Dec.

LIVERPOOL UNIVERSITY V.M.S.
Pres. Mr. J. P. Heyes, F.R.C.V.S., Wigan
Hon. Sec. A. Walker, M.R.C.V.S., Mill Lane, West Derby
Pathological Sec. Mr. D. C. Matheson, F.R.C.V.S.
Meetings, May, July, October, January.

MIDLAND COUNTIES V.M.A.
Pres. Mr. J. Martin, M.R.C.V.S., Wellington, Salop
Hon. Sec. Mr. H. J. Dawes, F.R.C.V.S.,
 Camden House, High-st., West Bromwich
Meetings, Second Tuesday, Wednesday, Thursday, and
 Friday alternately in Feb., May, Aug. and Nov.

NORTH OF ENGLAND V.M.A.
Hon. Sec. T. T. Jack, M.R.C.V.S., 8 Elmwood Ter, Sunderland
Meetings, Third Friday, Feb., May, Aug. and Nov.

NORTH WALES V.M.A.
Pres. Mr. F. Booth, M.R.C.V.S., Colwyn, Denbighshire
Hon. Sec. Mr. L. W. Wynn Lloyd, M.R.C.V.S., Carnarvon
Meetings, First Tuesday, March and September

SOUTH DURHAM AND NORTH YORKSHIRE V.M.A.
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Hon. Sec. & Treas. Mr. J. H. Taylor, F.R.C.V.S.,
 Grange Road, Darlington
Meetings, First Friday, Mar., June, Sept. and Dec.

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Hon. Sec. Mr. J. Clarkson, M.R.C.V.S., Garforth, nr. Leeds
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 Kirkstall-road, Leeds

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Sec. T. C. Toope, 34 High Street, Dover

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 Myatt's Park, S.E.
Hon. Sec. Mr. H. A. MacCormack, M.R.C.V.S.,
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Meetings, First Thursday in each month, except August
 and September, 10 Red Lion Square, Holborn, at 7 p.m.

EASTERN COUNTIES V.M.A.
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Hon. Sec. & Treas. Mr. Sidney Smith, Junr., M.R.C.V.S.,
 37 High Street, Lowestoft
Meetings, Second Tuesday, Feb., July and Sept.

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 Long Stanton, Cambridge
Hon. Sec. & Treas. Mr. Tom Hicks, M.R.C.V.S.,
 Boston Road, Sleaford
Meetings, Second Thursday Feb., June, and October

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Hon. Sec. & Treas. Mr. G. P. Male, M.R.C.V.S., Reading
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Meetings, Last Thursday, Mar., June and Sept.

SOUTH EASTERN V.A.

Pres. Mr. James Crowhurst, F.R.C.V.S., Canterbury
Hon. Sec. & Treas. Mr. Theo. C. Toope, M.R.C.V.S.,
 34 High Street, Dover
Meeting, Second Wednesday in September, Ashford

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Meetings, Last Saturday in January and August

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SCOTTISH METROPOLITAN V.M.S.

Pres. Mr. P. Wilson, M.R.C.V.S., Lanark
Hon. Sec. Mr. Jas. Henderson, M.R.C.V.S.,
 Public Health Dept., City Chambers, Edinburgh

WEST OF SCOTLAND V.M.A.

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 19 Bank Street, Hillhead, Glasgow
Hon. Treas. Mr. Geo. W. Weir, M.R.C.V.S.,
 88 Crookston Street, Glasgow
Meetings, Second Wednesday, May, Oct. and January.

COLONIAL SOCIETIES: (see preceding page)**BRITISH COLUMBIA V.M.A.**

Pres. Dr. Gibbons, M.R.C.V.S., Vancouver,
Hon. Pres. Dr. Hamilton, M.R.C.V.S., Victoria.
Sec., Treas., Registrar. Dr. T. Jagger, V.S., Vancouver.

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THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1318.

OCTOBER 11, 1913.

VOL. XXVI.

PITUITARY EXTRACT.

Many, and indeed most therapeutical innovations fail to justify their introduction into practice: but pituitary extract seems very likely to gain a permanent place in veterinary obstetrics as a uterine stimulant.

Here and abroad, it has given remarkably good results in uterine inertia in the bitch—probably the animal most frequently affected with this difficulty in parturition. Recently, upon the Continent, it has been found equally successful in the case of the large farm animals. The agent seems to act equally well upon either an originally inert uterus or one which has become inert only after severe and ineffectual labour. It seems to be as reliable as the most accurately standardised preparations of ergot; and no ill effects have yet been reported from its use. Its record, so far, suggests that it will prove the best uterine stimulant we possess; for none of the old ones are altogether satisfactory.

Both English and Continental firms now prepare pituitary extract, and only one objection, and one warning apply to its use. The objection is that it is expensive. This should not deter us, for the agent is not required for everyday use, but for special cases in which it may prove indispensable. The warning concerns the possibility of toxicity. The comparatively few reports of the drug now available indicate that it is surprisingly free from injurious effects, but these must not be taken as final. We doubt whether an extended experience will confirm the view that the agent is entirely devoid of danger.

GLANDERS.

Again this week, for the second time in history, the Board of Agriculture returns show that no case of glanders had been reported in Great Britain during the preceding week.

Mr. W. Hunting, who has been ill for several weeks, is still confined to his room and is unable to attend to business.

He has been suffering from suppurating inflammation of the left ear, and the violent pain ensuing has quite prevented him from either reading or writing. His condition has caused great anxiety to his friends and relatives, and it is probable that he will not be able to resume his correspondence for another week or so.

POISONING BY BARIUM NITRATE.

The subject was a thoroughbred mare called "Chouta" by "Lancers" ex. "Phryné."

In the morning of May 2nd, 1911, a boy was sent to me asking me to send a remedy for this mare for a slight cough. I sent the following recipe:—

R Chlorate of potass.	30.00	grams.
Nitrate of potass.	30.00	"
Glycyrrhiza	30.00	"

This quantity for one powder. One powder to be given twice daily in the food. The prescription was sent at 10 a.m. to a chemist who made up one dozen of the powders.

A powder was given by the owner at 12 noon, followed by effects indicative of slight colic. Another was given about 6 p.m. in the evening feed.

At 9 p.m. the owner came to me to tell me the mare was very seriously ill with colic, so I went at once to see her. It was a matter of 15 kilometres drive over very rough roads, so I didn't arrive until 10.30 p.m. The mare was then dead, so I opened her. The stomach was quite normal also the first part of the duodenum, but the small intestine from behind the entrance of the bile duct was very much injected, one can hardly say inflamed, for the appearance was more or less like a venous congestion, and in direct contrast to the parietal peritoneum. Further, the mucous membrane of the intestine was not inflamed as one would expect with an irritant poison.

My client at first said my prescription was bad, and the following day gave one of the powders to a colt of his fresh from grass. This colt suffered from diarrhoea for more than a week after. My client then took the prescription to another chemist and tried these powders on another colt who had a cough, with good results. After this he tried one of the original powders, with the same result of colic and diarrhoea.

This decided him to consult me again, and I suggested to analyse the original powders, also the contents of the intestines of the mare "Chouta." These were sent to the Instituto Higiénico Nacional de Chile, with the following results. The powders were composed of:—

R Chlorate of Potass	30.00	grms.
Nitrate of Barium	30.00	"
Glycyrrhiza	30.00	"

The intestines revealed the presence of barium in considerable quantities.

I send you this clinical note more from the rareness of encountering mineral poisoning in herbivora with authentication of its source, and also the peculiarity of not encountering any congestion in the duodenum before the bile duct, deducting from this that the bile may have a dissolvent action on salts of barium. A case for compensation against the chemist is now in the courts. According to South American Republican custom the result will be known in 1930 or thereabout.

Santiago, Chile. WM. J. MOODY, F.R.C.V.S.

AMPUTATION OF THE LIMB IN A COW.

The subject of the photograph is an Ayrshire quey, aged two years, the property of Mr. Wm. Steel, Hazeldean Farm, by Strathaven, Lanarkshire.

The quey was found in the field on Feb. 2nd, with fracture of the off fore canon bone. It was

taken into the house and the leg put in splints, a dry dressing was applied every alternate day until the operation wound healed.

An artificial limb was fixed on on March 21st. Slight improvements have been made on it since, but it consists essentially of: two iron splints attached to a round piece of wood below, and to the limb below the elbow by a broad band of leather which is laced tightly. The end of the limb is inserted into a leather pocket and rests on a felt pad.

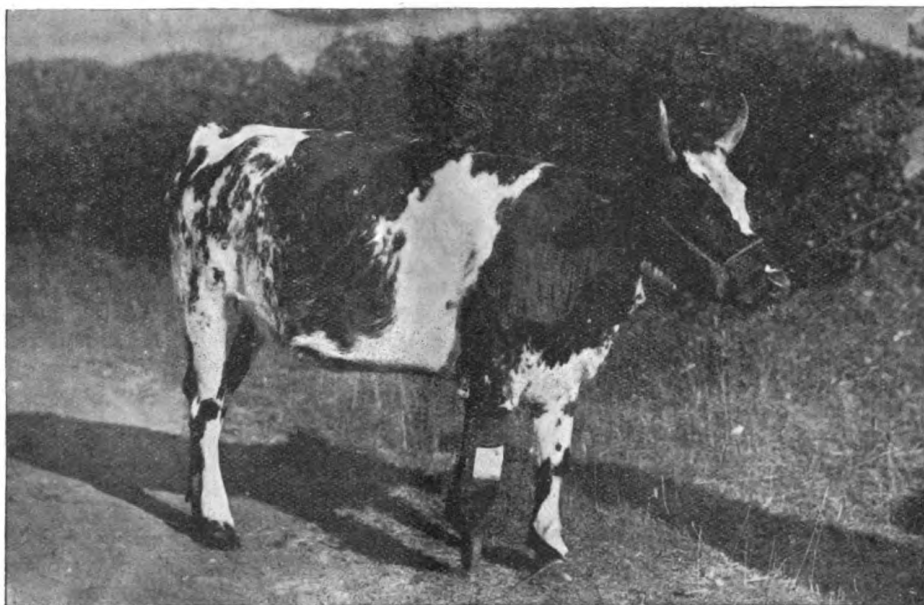
The quey is in prime condition and enjoys perfect health. It can use the leg well, is able to lie down and rise, and can run with the rest of the cattle.

The operation was performed by myself and my assistant, Mr. James M. Galloway, Class D.

As I have not seen anything of the kind recorded for some time, I thought it would be of interest to the readers of *The Record*.

PETER MEIKLE, M.R.C.V.S.

Strathaven.



ABSTRACTS FROM FOREIGN JOURNALS.

AN ENZOOTIC AMONGST YOUNG PIGS CAUSED BY A VARIETY OF THE STREPTOCOCCUS PYOGENES.

Prof. Rievel, of Hanover, records (*Deutsche Tier. Woch.*) an enzootic which occurred upon premises, which, for four years past, had been free from contagious diseases of swine. Numerous cases of illness and death appeared suddenly amongst the young pigs, affecting those which were housed in old draughty pens composed of framework; while the animals which were in new, well-made pens, remained healthy, although they associated with the sick ones on the same exercise ground. The mortality amounted to 50%. The old pigs remained unaffected.

Amongst the most prominent symptoms seen were lentil-sized reddenings, which afterwards became covered with brown-red or black crusts, upon the under part of the abdomen and the inner surface of the thighs. There was also conjunctivitis with a considerable muco-serous discharge, which often dried into crusts. The general condition was little disturbed, and the temperature ranged between 103.6° F. and 104.9° F. Death occurred suddenly and without warning, after a period of illness which varied in duration.

Post-mortem, a number of lesions were found, in addition to those of the skin and eyes. Generally there was a large quantity of sero-fibrinous fluid in the abdominal cavity, slight swelling of the spleen, and degeneration of the liver and kidneys. The liver and kidneys also showed isolated or

numerous hæmorrhages. In all cases there was slight reddening of the small intestine, and often also small superficial hæmorrhages in the cardiac portion of the stomach. The thoracic cavity contained a serous fluid which was rich in fibrin elements. The heart muscle was slightly opaque, but the lungs showed no pathological alterations.

Bacteriological examination revealed diplococci in the organs, in the blood, and especially in the fibrinous exudates. Ohlenbusch classifies this diplococcus as a variety of the *Streptococcus pyogenes*. This species of streptococcus is very resistant to cold and to desiccation, and is pathogenic for young pigs, mice, rabbits, guinea-pigs, and pigeons.—*Berliner Tier. Woch.*

THE ACTION OF PITUITARY EXTRACT UPON SOWS.

Walther Gottschalk, of Brunsholm, writing upon this subject, points out the admitted uncertainty of the emmenagogues hitherto employed, and the fact that weakness of labour pains is common in the sow and not rarely necessitates slaughter. These considerations have induced him to try the pituitary extract prepared by the "Chemischen Fabrik" of Aubing (*vide Veterinary Record*, Sept. 27th, 1913, page 199) upon sows, and his results from it have been highly encouraging. So far, he has only treated four cases, which he reports as follows.

This first case was a sow which had given birth to one dead foetus, and had afterwards lain a long time in the pen without labour pains. Gottschalk injected 5 c.c. of pituitary extract subcutaneously. Fifteen minutes later, as the drug had had no effect, he again gave the same dose, but this time administered it intramuscularly in the forelimb. After another fifteen minutes vigorous labour pains set in, and led to the birth of the three remaining young—one living and two dead. The sow did well.

The second case was a sow from which Gottschalk had already removed one living foetus with the forceps. Thinking it possible that others might be present, he injected 10 c.c. of pituitary extract without effect. Half-an-hour later he again gave the same dose intra-muscularly; but, though he remained watching the sow for a full hour afterwards, he saw no sign of labour pains. It transpired that no other offspring were in the womb, and in this case, therefore, the drug failed to induce uterine contractions in the absence of a foetus. The sow and the one young pig did well.

In the third case the sow gave birth to nine living young without assistance, after which a macerated foetus lay for 36 hours in the birth passage, despite all efforts to remove it with the forceps. Labour pains were completely absent. The intramuscular injection of 10 c.c. of pituitary extract induced vigorous and persistent pains in fifteen minutes, leading to the delivery of the foetus. The sow was slaughtered next day on account of threatening metritis.

The fourth case was a sow in which a living foetus could be felt in the birth-passages, but labour pains were absent. The subcutaneous injection of 10 c.c. of pituitary extract was followed after about

25 minutes by vigorous and persistent pains, which resulted in the birth of three living young in the course of an hour. These three were the whole litter. One of the young died, the two others and the sow did well.

Few as the cases are, Gottschalk believes them to justify the conclusion that pituitary extract is of great value in all cases in which the labour pains of the sow partially or completely fail. He has never seen any ill effects from its use, and on that account is inclined to regard it as quite devoid of danger. In future, his intention is to use it in doses of 10 c.c., administered *intra-muscularly*.—*Berliner Tier. Woch.*

AN AGENT FOR USE AGAINST RATS.

H. Novak, a gardener, announces (*Thüringer landwirtschaftl. Zeitung*) that the common hound's tongue (*Cynoglossum officinale*) is a certain agent to secure the banishment of rats. The plant is found on rubbish heaps, in fields, etc. The purple flowers have an unpleasant odour. The freshly dried plants drive away rats by their odour; and, when strewn in a place infested by rats, they are said to cause the immediate departure of the animals. Stuffing the rat holes with the plants will cause the rats to migrate further and more completely.—(*Münchener Tier. Woch.*)

W. R. C.

[*Cynoglossum officinale* is found in some parts of the United Kingdom; but those who think of using it for this purpose should remember in doing so that it is credited with being poisonous to farm animals on account of its contained alkaloid *cynoglossin*, which resembles curare in its action.—*Transl.*]

THE NUMBER AND VARIETIES OF BACTERIA CARRIED BY THE COMMON HOUSE FLY IN SANITARY AND INSANITARY CITY AREAS.—G. L. COX, F. C. LEWIS, and E. E. GLYNN. (*Jour. Hyg.* (Cambridge), 12 (1912), No. 3, pp. 290—319, pls. 2, figs. 2.

"Over 450 naturally infected or wild flies (*Musca domestica*) were caught in Liverpool during September and the first part of Oct., 1911, from different parts of the city. The number and kinds of bacteria carried and contained by them have been investigated. The number of bacteria coming from house flies whilst struggling in liquid may be very large, varying from 2000, the lowest figure in five minutes, to 350,000, the highest figure in thirty minutes. This number may be taken as a measure of their capacity to pollute liquid with their vomit or excrement, or by wallowing in it. The number of bacteria carried inside the fly is very much greater.

"Flies caught either in insanitary or congested areas of the city carry and contain far more bacteria than those from the more sanitary, less congested or suburban areas. The number of aerobic bacteria from the former varied from 800,000 to 500,000,000 per fly, and from the latter from 21,000 to 100,000. The number of intestinal bacteria as indicated by glucose bile salt fermenters

is also greater in the insanitary or congested areas, the numbers varying from 10,000 to 333,000,000, than in the more sanitary areas where they carried from 100 to 10,000. Pathogenic bacteria and those allied to the food poisoning groups were only obtained from the congested or moderately congested areas and never from the suburban areas."

THE HOUSE FLY AND ITS RELATION TO CITY GARBAGE.—J. H. PAIN (*Psyche* 19 (1912), No. 5, pp. 156—159).

In investigations conducted in a Boston tenement district the author found various species of muscids, including a large percentage of house flies, swarming about garbage, depositing eggs and feeding upon it and upon other refuse thrown into the alleys. Larvæ were collected from the contents of various pails as they were emptied into the carrier's wagon, being as a rule found in quantities and often so abundant that the interior of the receptacle appeared as a wriggling mass. They were taken to the laboratory and placed in covered boxes containing a little earth in which they could pupate, and were fed upon stale water-soaked bread. Of 649 specimens reared to adults, 22.4 per cent. were *Musca domestica*, 22.3 per cent. *Phormia regina*, 50.5 per cent. *Lucilia serricata*, 4.4 per cent. *Calliphora erythrocephala*, and 0.1 per cent. *Muscina stabulans*.

THE HOUSE FLY AS A CARRIER OF TYPHOID INFECTION.—F. W. THOMSON. (*Jour. Trop. Med. and Hyg.* (London), 15 (1912), No. 18, pp. 273—277).

This is a report of investigations made at the Central Research Institute of India. The experiments led to the conclusions that "the ingestion of typhoid germs in large numbers has no bad effect on the health of flies; they can retain living typhoid bacilli within their bodies and transmit infection thereby for a period of 24 hours after ingestion; they can carry the living germs on the exterior of their feet or bodies for a period of six hours, and so transmit infection. F. E. P.

ROYAL (DICK) VETERINARY COLLEGE.*

Address by Dr. O. CHARNOCK BRADLEY, M.D., D.SC., CH.B.
Principal of the College.

He who has the privilege of giving an address at the opening of a new session, has a roving commission. He is at liberty to choose any subject which seems to him good, provided always that it must be cognate and should be topical. On the present occasion there is no dearth of subjects upon which to draw, the only difficulty being to decide which is most fitting.

The consideration of tuberculosis in its many aspects would be appropriate. Here is a disease rampant in this country, widespread in its distribution, affecting all classes, sparing neither man nor beast, causing untold misery among the human race, and producing enormous pecuniary loss to the owner of animals. That such a disease should occupy the thoughts of those who guard the health of the community, and those solicitous

of the commercial welfare of the country is natural. That the public should desire prompt, entire, and final elimination of such a scourge is natural. That they should evince some degree of impatience at what, to them, appears the slow operation of preventive and curative measures is not surprising. But here, as in the case of other specific diseases, slow and sometimes tentative measures are imperative. A disease like tuberculosis cannot be eradicated on the instant, and this for reasons which are sufficiently obvious. Therefore, one must counsel patience and an endeavour to rest in the assurance that everything which is humanly possible and economically expedient is being done to bring about a time when tuberculosis will be a thing that was and is not.

So far as the recently introduced Tuberculosis Order is concerned, it is yet too early either to praise or to condemn. Time alone will demonstrate all its merits and demerits; but, whatever these may be, the Order is commendable if only in that it seeks to remove those cases of bovine tuberculosis which are of most danger to man. It is much to be regretted that the unfortunate Milk and Dairies Bill has failed to pass through the various Parliamentary stages necessary to make it law. There are those, I imagine, who will claim greater importance for this Bill than attaches to other measures which received more attention by Parliament during the last session.

Another disease which might quite fittingly have formed the subject of this address is that, up to the present, somewhat mysterious illness of sheep which rejoices in the possession of the decidedly inelegant name of "scrapie." The very fact that it has not, as yet, received a polysyllabic title is significant. Unlike tuberculosis which has no geographical limits and affects man as well as animals, "Scrapie" is limited in its distribution, and is confined to sheep. Nevertheless it is a disease of great commercial importance, and the sheep-owners of the South of Scotland have reasonable cause for anxiety to know how it is caused and spread, and how its ravages can be combated. Unfortunately "scrapie" has a long period of incubation and, consequently, investigation is slow. Though several observers have made it the subject of careful study, they are not as yet agreed as to the cause. Until this has been decided it will be difficult to suggest adequate and certain preventive measures.

I am well aware that the agriculturist is apt to think that investigation into the cause and prevention of diseases is slower than need be. May I seize this opportunity to point out that discoveries of importance are of necessity slow. If the conclusions arrived at are to be of any value, the various steps of an investigation must be repeated and checked more than once. Those who have most experience of research, and whose word is consequently of most worth, have learned from experience the importance of extreme care and wariness, and are alive to the dangers of taking anything for granted, and of pronouncing judgment hurriedly. The scientist knows that, as other men, he is fallible, and so desires to follow that line of procedure which will help him to avoid mistakes. This is all really to the advantage of the stockowner. A hasty, ill-considered statement might do more harm than good.

I know, also, that some agriculturists are of opinion that the practical farmer is not sufficiently consulted. In answer to this it is enough to say that no investigator worth his salt neglects any information from any source which is likely to throw any light whatsoever upon the problem he is endeavouring to solve.

The importance of tuberculosis, "scrapie," and other diseases of a like nature notwithstanding, it appears to me that, for several reasons, the present is a fitting occasion on which to scan quickly, and therefore super-

* At the opening of Session, on Wednesday, Oct. 1. Prof. Rankin, F.R.C.V.S., in the chair.

ficially, the aims and methods of those who, at the present day, are charged with the training of the future professional man. I propose, therefore, to lift the curtain ever so little and allow a glimpse of the aims and methods of the staff of a college like this.

The cynic has said that educational matters never did interest the British public. This may have been true once, but one would hesitate to make so sweeping a generalisation to-day. The average citizen has his own views on elementary education at least, though possibly these views may not accord very perfectly with those of the professed educationist. And there are not wanting those who follow closely the progress of secondary education. Professional education, however, is generally considered to be something apart, something so highly specialised as to be beyond the comprehension of the everyday person. As a matter of fact the aims and methods of professional education have the same root ideas as have those of elementary and secondary education. There is no reason why the average citizen should not follow sympathetically the ideals underlying the training of the professional man, and there is every reason why he should. A profession and the public act and react upon each other. It has been said, and said truly, that the level of a profession depends, not so much upon its members, as upon the intelligence of the average citizen. If the public were to demand a higher standard of attainment in their medical attendants and veterinary surgeons, it is safe to say that that standard would have to be achieved. It is therefore in the interests of the public that they should keep themselves *au courant* with the aims and methods of professional education. It is to be remembered that it is simply to safeguard the public that degrees and diplomas are granted to the medical man and the veterinary surgeon after passing certain tests. The citizens, therefore, are merely doing their duty to themselves when they enquire as to what these degrees and diplomas are, what tests are imposed upon the candidate who seeks them, and what training the candidate has undergone in preparation for the tests. Concerning diplomas and degrees little need be said here, except that the advance of the veterinary profession is indicated by the fact that now the Universities of London and Edinburgh grant degrees in veterinary science to those who desire the higher scientific training. In instituting veterinary degrees these two Universities doubtless earned the disapproval of Sir Alfred Hopkinson, who, the other day, expressed the hope that at some not distant date some indiscreet but intelligent person would propose the abolition of degrees altogether. I think we may safely assume that medical and veterinary degrees will never be, and cannot be, abolished, since they serve as a hall-mark whereby the attainments of the possessor are indicated.

There is another aspect of professional education which is, I think, far too often ignored. The citizen who has undergone an adequate and sound training of a technical kind has gained both morally and intellectually. Indeed, Sir Philip Magnus recently claimed that science and the application of science to industry and professional life gives quite as good an intellectual training as the more literary studies of the older universities. In Scotland, where the "humanities" have ever been revered, it is perhaps too much to expect that all this will be accepted as a truth. But it is incontestable that the man with a professional and scientific training, apart altogether from his ability to apply his knowledge professionally, is a more valuable citizen than he would have been otherwise. By producing such citizens, therefore, schools of applied science are performing a civic function as well as a professional one.

As a teaching institution we are concerned with the manner and effect of the training of the student rather than with the granting of a diploma or degree as the goal of his curriculum. The manner of the training has

undergone considerable change of recent years, in accordance with the trend of modern ideas on education generally. That educational ideals and practice should change is in the natural order of things. Fortunately man is a mixture of conservatism and progressivism—a dweller in the "double house" of the Egyptians, a driver of the two horses of Plato. And man discovers new wants and feels new aspirations. He evolves mentally. What was good enough for his father is most certainly not good enough for him. So his views on education widen and deepen. It is thrice fortunate that this is so, for there is grave danger in being satisfied.

Education, moreover, is in its essence progressive, nay, it is more, it is anticipatory. However strongly this applies to training in elementary and secondary schools, it applies yet more strongly to scientific and professional education. Consider the great and rapid advance in science generally during the past quarter of a century, and there is no wonder that methods of teaching have altered. While other arts and sciences have been forging ahead, veterinary science has not stood still. Both as a science and as a profession, its development has been remarkable. Not much more than sixty years ago, the veterinary surgeon in Scotland was generally a working man who, for two sessions or less, had "scorned delights and lived laborious days" in order to qualify himself to treat diseases according to the then current knowledge. Our own founder who, "while others slept, was climbing upwards in the night," had no more than a few weeks education—or what passed as such—in a veterinary college. From a training which, in 1844, was anything or nothing, the curriculum has gradually lengthened to a minimum of four years. Many are of opinion that a further increase is inevitable.

The lengthening of the curriculum has arisen quite naturally out of an expansion of the scientific veterinary horizon. The fact has from time to time been forced upon the authorities that, in order to produce practitioners fitted to fulfil adequately their duty to the public and the State, a longer, and yet longer time of preparation was necessary.

In spite of its increased length, the curriculum has not been rendered lighter. The same amount of work has not been spread over a longer time. On the contrary, the old subjects are now considered more fully and new subjects have been added. In the days of the two-session curriculum, pathology was scarcely in existence, and bacteriology—that science which has cleared up so many medical problems and has revolutionised surgery—was unborn. Protozoology is the progeny of yesterday, and some special lines of study are only to-day being contemplated. Hence it comes to pass that the four-year curriculum, introduced as recently as 1895, is already overburdened. How relief will ultimately be obtained remains to be seen, but there is just a possibility that the preliminary sciences—chemistry, physics, botany and zoology—will have to be taken in secondary schools before admission to a veterinary college. If this arrangement is ever affected, it will not be because the preliminary sciences are held of little value. Rather the opposite. They are so valuable as giving a scientific training and as cultivating a scientific mood that to remove them from a crowded curriculum would allow of their proper and desirable expansion.

Concurrently with the increase in the time taken to prepare the veterinary graduate, a change has taken place in the manner of the preparation. Time was, and that not very long ago, when all the equipment deemed necessary for the proper instruction of the student was a lecture room, a black-board, and a piece of chalk. To make the picture more truthful, it must be added that in some subjects there was a certain amount of practical work, and that towards the end of the student's career

he was expected to "see cases." But this was merely an extension of the "chalk and black-board" method. Except with the most acute and keenest student, the cases were merely looked at through the teacher's eyes. In short, the main duty of the student was to use his ears and his memory.

Though tradition dies hard, and the psychology of the student is such that he likes, sometimes even prefers, spoon-feeding, teachers have now so framed their courses that the student must do and see for himself. We are all familiar with the danger which attached itself to the old method of teaching—the danger of suppressing two very important and valuable attributes of youth—natural inquisitiveness and the pleasure of using the hands. The mere recital of a number of facts will never result in the education of the listener. The student must be put in the way of discovering his facts for himself. He must use all his senses, and, certainly not least in importance, he must use his hands. His hand serves a two-fold purpose. By it he will have to perform delicate manipulations and operations. And in it he has a sense which cannot be too highly cultivated—the sense of touch. It would be easily possible to speak at some length on the value of the sense of touch to the human and veterinary surgeon. It must here suffice to insist that the student is not doing his duty to himself if he does not avail himself of every opportunity to train himself to "think through his fingers," as it has been finely expressed.

The cultivation of every avenue of the mind naturally means an immense amount of practical work. No class, now-a-days, confines its labour to the hearing of lectures. Work in the laboratory and the clinique is imperative. The more this can be extended, and the less time given to the didactic lecture, the better will be the result. I am not one of those who see no value in the systematic lecture. The human voice is more living than the printed page, and problems can be more easily explained in the lecture-room than between the covers of a book. But it is recognised that the lecture is but one of the instruments in the hands of the teacher—and not the most valuable at that. "You do not educate a man by telling him what he knew not, but by making him what he was not." We want to avoid "ignorance in stilts, his cap well lined with logic not his own." What a student is taught is really of less importance than how he is taught it.

Without labouring the point unduly, it may be said that the main object of a teaching institution such as this is to train the student that he may be able to teach himself. Manipulative dexterity, the ability to observe minute differences, the faculty of reasoning, are all more important than the accumulation in the mind of a multitude of ill-digested facts. While remembering that we exist for the purpose of training the future veterinary surgeon, we do not forget that we are responsible for his education—the drawing forth of his faculties. We do not forget that, to do our duty, we must furnish him with such knowledge as will be of service to him when he goes forth into the world armed with his diploma. But we remember also that the imparting of "applied knowledge," without a leaven of that, the application of which is not apparent, leads to formalism, and formalism would be most stultifying in one whose success in life depends upon intellectual flexibility. We are also alive to the danger which exists of annihilating the healthy, and therefore highly desirable feeling of wonder and admiration. Care must be exercised also to preserve the power of imagination and lead it along fruitful lines. It is some years since a profound thinker emphasised the value of imagination in science.

Of all faculties, that of reasoning must be cultivated to the utmost. In a professional man the ability to accumulate facts without the ability to use them, is of

little value. Professor Huxley once divided scientists into the hod-men who accumulate facts, and the builder who uses them. In a profession it is only the user who is successful. Unfortunately, it is not easy for the embryo veterinary surgeon to collect his facts in the first place. When I say "his facts," I mean the facts which matter. It is not particularly difficult to note facts of a kind, but it is difficult to winnow the wheat from the chaff. We all know how easy it is to obtain the account of, say, a street accident from a by-stander. And we all know that the accounts of several by-standers will differ severally and individually. In most accounts the facts that matter are overlaid by a thick accumulation of irrelevant material. It is still more difficult for the student to correlate facts and reason from them. Nevertheless, both the faculty to gather, and the faculty to use must be present if success is to wait upon endeavour. The teacher of the student will first train the mental eye to see. So will knowledge of facts be attained. But "knowledge comes, but wisdom lingers," and the teacher is faced with the more difficult task of getting his pupil to arrive at a reasoned conclusion regarding observed facts. The mental, as well as the physical, vision must be made clear and penetrating, and this is often not easy of accomplishment.

The problem which confronts the teacher is, how is all this to be accomplished in classes, the members of which vary widely in natural and cultivated ability. As Prof. Thring has put it, pithily and unflatteringly: "All are to be taught. And knowledge is infinite. And life is short. And average brains are weak. How can this be dealt with?" The teacher is constantly being brought up short by variations in the limitation of the human understanding.

If aims and ideals as just outlined are right, it naturally follows that what was deemed sufficient accommodation and equipment in the past, would be considered lamentably inadequate to-day. This is brought home to us very forcibly by newspaper and other accounts of the immense sums of money which have been expended on medical and other schools during the past few years—an expenditure having its origin in the conviction that educational institutions fail in a public duty, and consequently fail to justify their existence, unless they fall in line with modern views and produce practitioners properly furnished in accordance with present-day standards. Nay, more, the schools have to look to the requirements of the future as well as the present, for the student of to-day will be the practitioner of to-morrow, and he must be mentally equipped to utilise not only the knowledge which is current to-day, but also the discoveries which to-morrow will bring forth.

It follows also that large classes, such as were formerly common, have had to give place to classes containing a number no greater than will allow the teacher to devote attention to each individual. A large practical class without adequate supervision means that some members at least will waste time, not from idleness, but because they cannot get the advice and assistance of the teacher when difficulties arise. It is obvious, I think, that the teaching staff of a modern professional school must be larger than was formerly considered necessary. The time is certainly past when one man could undertake to teach—save the mark—several different subjects.

One wishes it were possible to retain our most promising graduates for a time after they have obtained their diploma, by offering them teaching and research fellowships. To have, say, a session's experience as demonstrators and investigators would form a very valuable piece of post-graduate training. I sometimes think we should have at least one fellowship of this kind attached to each lectureship.

This reminds me that there is yet one more direction where lies a function and duty of the modern veterinary

school. Formerly, graduates on leaving College had little option but to become general practitioners. This is not so now-a-days. The majority certainly enter general practice, but a considerable and growing proportion enter one or other of the public services. All graduates receive the same general training as students. It is clear, therefore, that those who wish to specialise require further and special training. Hence has arisen a demand for post-graduate courses, which were unthought of less than twenty years ago. So important to the State has become the work of the specialist that a Departmental Committee has recommended the granting of financial assistance to those prepared to undergo post-graduate instruction with a view to entering one or other of the public veterinary services. The recommendation has not, as yet, been put into effect, but the "sweet reasonableness" of the proposal will surely be sufficient to ensure its consummation.

SOUTHERN COUNTIES VETERINARY SOCIETY.

The autumn meeting was held at the Old Ship Hotel, Brighton, on Thursday, September 25th, and was well attended. Invitations had been sent to the various veterinary inspectors in the counties covered by the Society, and prior to the meeting both members and visitors were entertained by the President, Mr. G. H. Livesey, to luncheon, at the Old Ship Assembly Rooms. Mr. H. A. MacCormack, the Hon. Sec. of the Central Veterinary Society, and Mr. Theo. C. Toope, the Hon. Sec. of the South Eastern Veterinary Association immediately supported Mr. Livesey at the luncheon, and the others who signed the attendance book at the subsequent meeting were Messrs. J. T. Angwin, Arundel; A. H. Archer, C. W. W. Brown, Southsea; E. Whitley Baker, Wimborne; Gerald W. Bloxsome, W. K. Stuart, Hove; Walter Burt, Brighton; Chas. J. Callow, Burgess Hill; W. A. DellaGana, Southampton; F. G. Samson, Mitcham; H. Smith, Worthing; and H. Whicher, Bexhill-on-Sea, members.

Visitors: Messrs. W. H. Brown, London; A. C. Burton, Battle; Percival Carter, Worthing; E. W. Morris, Uckfield; J. W. Pritchard, Brighton; and J. H. Ripley, Hurst Green.

On the proposition of Mr. Angwin, seconded by Mr. Samson, the minutes of the last meeting as published in *The Veterinary Record* were taken as read and confirmed.

Correspondence. Letters and telegrams of regret at inability to be present were announced from Col. F. Duck, Major F. Smith, Profs. Hobday, G. H. Wooldridge, and Messrs. R. Barron, H. Bradbury, R. Burt, J. V. Blake, Clement Baxter, James Crowhurst, J. A. B. Cocksedge, W. Caudwell, W. Coveney, J. B. Dier, R. Dawtrey, H. Edie, C. A. Good, C. Hedworth Gollidge, E. R. Harding, H. Jarvis, H. H. Jeffries, Hy. Gray, W. Hunting, Chas. F. Hulford, E. R. Harding, W. Irish, H. Leeney, G. H. Lockwood, E. Langford, J. A. Lipscomb, H. A. MacCormack, J. W. MacIntosh, G. P. Male, J. C. Munby, F. Maynard, F. Marks, Chas. W. Marshall, J. B. Martin (Rochester) Geo. Parr, C. Pack, W. E. Petty, C. Peirce (London), R. H. Pinching, A. E. Roberts (Bournemouth), C. Roberts (Tunbridge Wells), H. Redford, S. H. Slocock, C. H. Spurgeon, W. Smithers, Wm. Shipley, J. W. Shepherd, P. J. Simpson, R. A. Thrale, Hy. Taylor, J. A. Todd (West Kirby), G. F. Vincent, J. E. Wallis, D. Wyllie, F. T. Walder, J. Stewart Wood, A. C. Wild, Reg. F. Wall, and F. J. Thornton.

It transpired that the absence of Mr. Harding, of Salisbury, and Mr. Crowhurst, of Canterbury, was due

to the bereavements they have just sustained by the death of their respective wives, while Mr. Redford wrote that he had not yet quite recovered from the effects of a nasty accident which he unfortunately met with at the end of July.

Mr. E. WHITLEY BAKER proposed that suitable letters be written to each of the gentlemen mentioned conveying the sympathy of the Society. No one felt more sorry than he did to hear of the sad loss which had befallen Mr. Harding. He only heard from him the other day, and he then had no idea that Mrs. Harding was even ill. He would also like to suggest that a similar communication should be sent to their old friend Mr. Hunting, whom they would be sorry to hear had been unable to do anything for the last two or three months owing to an attack of otitis. He thought it was hardly necessary for him to say how sorry they all were to hear of Mr. Hunting's illness, and that they hoped he would have a speedy recovery. He proposed that suitable letters be sent to all four of these gentlemen.

Mr. ARCHER seconded, and the meeting unanimously signified its assent.

A letter was read from Mr. Chas. Roberts, of Tunbridge Wells, acknowledging the Society's resolution of condolence and sympathy with himself and the other members of the family on the death of his father, the late Mr. R. Roberts. His mother and the other members of the family wished him to express their very sincere appreciation and to say how much they had valued all the kindness which had been shown to them.

New Members. The election of Capt. OLIVER, A.V.C., who had been proposed for membership by Mr. Angwin, and seconded by Mr. Archer at the last meeting, was confirmed.

The following gentlemen were also nominated for election:—

Mr. SAM SMITH, of Horsham, proposed by Mr. Angwin seconded by Mr. Stuart.

Mr. PERCIVAL CARTER, of Worthing, proposed by the President, for Mr. Todd, seconded by Mr. H. Smith.

Mr. E. W. MORRIS, of Uckfield, proposed by Mr. W. Burt, seconded by Mr. Stuart.

Resignation of the Hon. Secretary, Mr. J. Aler. Todd.—The resignation was conveyed in a letter which Mr. Todd had written to the President from West Kirby, under the date of September 24th. Mr. Todd wrote:—"I take this step with great reluctance, but you will agree that having removed from Sussex it is impossible for me to continue. My 9½ years as an official have been years of pleasure to me, and I trust of some slight use to the S.C.V.S." Mr. Todd added that he wished publicly to acknowledge the ready help and assistance he had at all times received from their worthy treasurer, Mr. Baker, and from his own "second in command" behind the scenes, Mr. Aylott.

The PRESIDENT remarked that he was sure they would all agree this was a very sad one for them to receive. Mr. Todd had been a most excellent Secretary to the Society, and a good friend to all their members. Among the Secretaries of the different Societies throughout the country he thought there must be very few who could lay claim to the same popularity as their friend Mr. Todd could. (Hear, hear.) Now that Mr. Todd had removed from Worthing to West Kirby he could not possibly be expected to continue to discharge the duties he had so ably carried out for so many years. He would, therefore, like to move from the chair that the resignation be received with their very deepest regret, and that a letter be sent to Mr. Todd to this effect, and also wishing him, on behalf of all their members, every success in his new practice.

Mr. BLOXSOME seconded this.

Mr. THEO. C. TOOPE, as a visitor, desired to add a few words to what the President had said, and also to

express the great regret which he personally felt at Mr. Todd's resignation of the hon. secretaryship of that Society. As hon. secretary of a neighbouring Society, he could say that he had always received the greatest courtesy and consideration from Mr. Todd, and not only that, but Mr. Todd had also been of very great assistance to him in the inquiries he had been making with regard to the fees paid to veterinary inspectors, and other matters. He felt that they had lost a most energetic and capable official in Mr. Todd, and he heartily joined in their wishes for his future success. (Applause.)

Mr. W. K. STUART felt sure that the President had only expressed the feeling of every member of their Society in what he had said. They all knew that they had lost not only a dear old comrade, but a Secretary whose place they would have great difficulty in filling. Mr. Todd was certainly one of the keenest men who ever took on the office. When he first accepted the position he believed the members were very few. He only spoke from memory, but he believed the membership of the Society then was less than forty.

Mr. E. WHITLEY BAKER: Twenty-five.

Mr. STUART: Twenty-five, and he has now brought it up to nearly eighty, which I think speaks for itself. Mr. Todd not only did the work willingly, but he did it well, and he really thought the thanks of every veterinary surgeon in England, as well as those of their own Society, were due to him for what he had done. Personally, he thanked Mr. Todd most heartily for all that he had done. (Applause.)

Mr. ANGWIN, as a neighbour and very great friend, wished cordially to endorse all that had been said as to Mr. Todd's services to the Society. They greatly regretted that he was compelled to leave them, but at the same time he was sure it would be the wish of them all to send him a very hearty vote of thanks for the able manner in which he had conducted the business of the secretaryship of their Society, and also their best wishes for his future success. (Applause.)

Mr. SMITH also desired to endorse all that had been said. Having lived next door to him, almost, for the last fourteen years, he was particularly sorry to lose him. (Applause.)

Mr. E. WHITLEY BAKER remarked that he did not want to take up their time by repeating what other members had said, but having been associated with Mr. Todd in his official capacity as hon. treasurer, he could assure them that it was a very great grief to him to know that he was severing his connection with the Society. Not only had he carried out his duties efficiently, but he had also done what every secretary did not always do—he had carried them out in the most pleasant manner.

The PRESIDENT, in putting the resolution to the meeting, said he should like to add that he had known Mr. Todd ever since he came down to Brighton and joined the Society, and that during the whole of that time they had been more or less neighbours, and their intercourse had always been of the most friendly nature. Personally, he was very sorry indeed to lose him, not only as a neighbouring practitioner, but also as an ever and very welcome friend. (Applause.)

The proposition was then unanimously agreed to.

Mr. E. WHITLEY BAKER mentioned that several of the members were desirous that Mr. Todd should not be allowed to officially sever his connection with the Society without their showing their appreciation of his services in a tangible manner, and a sum of £17 had been subscribed or promised towards a testimonial to him. He did not know the views of the other members as to the form this presentation should take, but his idea was that they should send a cheque to Mr. Todd, and that they should supplement this with an illuminated address from the Society containing the names of the subscribers.

The general feeling of the meeting was in favour of this course being adopted.

Election of Hon. Sec.—The names of Mr. Walter Burt, Mr. Gerald Bloxsome, Mr. Della Gana, and Mr. A. H. Archer were in turn proposed, but three of these gentlemen declined, and Mr. Archer, who had been proposed by Mr. Samson, and seconded by Mr. Baker, was then unanimously elected Hon. Secretary.

Mr. ARCHER, in accepting the office, remarked that he could not hope or expect to fill the position so efficiently, or with so much satisfaction, as his predecessor Mr. Todd, but he would do his best, and if they were not satisfied with him at the end of the year they could easily turn him out and appoint someone else.

The ordinary business of the meeting was temporarily suspended, and the President invited the members to join him in drinking success to the late Secretary, Mr. Todd, and good luck to his successor, Mr. Archer. (Applause.)

Mr. DELLA GANA thought there was another toast they ought to drink—the health of their President. (Applause.) He was sorry he had been unable to get there at the commencement of the luncheon, but he got there in time to sample their President's hospitality, and he could assure them, and he believed he spoke for Mr. Whitley Baker his travelling companion as well, that they had never enjoyed a repast better in their lives. He asked them to join him in toasting their President, Mr. Livesey, and might he be spared for many more years to enjoy health and happiness, and the esteem and regard of his fellow practitioners. (Applause.)

The PRESIDENT, in reply, said that he was very much obliged to them for the cordiality of their welcome. His only regret was that there were not more present, but that could not be helped. He hoped they would get through the rest of the business of their meeting without any difficulty, and that they would all come again to Brighton before long and spend a pleasant time in the Queen of Watering Places. (Applause.)

Proceedings were resumed, and on the proposition of Mr. Burt, seconded by Mr. Della Gana, it was decided to hold the next meeting in London, on the Wednesday in Cattle Show week, and to follow it up with a dinner at the Holborn Restaurant in the evening.

ROYAL SANITARY INSTITUTE CONGRESS.

Mr. ARCHER presented a report of the recent Sanitary Institute Congress at Exeter, to which he had been appointed delegate, and on the proposition of Mr. Della Gana, seconded by Mr. Angwin, instructions were given for its inclusion in the report of the meeting.

REPORT OF DELEGATE.

Gentlemen,—In making this report of the 28th Annual Congress of the Royal Sanitary Institute in July last, which as your delegate I had the honour of attending, I shall recount the incidents as they appear to me to interest, or apply to the medical profession generally and especially our own particular branch of it.

The usual thoughtful arrangements were made for those who attended the Congress, and the welcome by the officials and inhabitants of Exeter and the neighbourhood was hearty and genuine, to which the numerous entertainments provided bore witness.

The inaugural address by the Right Hon. Earl Fortescue was a masterly oration, and the subject well thought out, but, as it dealt mainly with "rural housing" it was only of indirect interest to veterinary surgeons.

At the sectional meetings on Preventive Medicine and Sanitary Science, if those submitted at the Conference of Veterinary Inspectors (by-the-way why inspectors instead of surgeons) be excepted, there were only two or three that in any practical way affected veterinary surgeons, in fact, it occurred to me that there was a great lack of appreciation of the immense amount

of influence the lower animals have on the lives and health of human beings. The indifference or ignorance displayed, shows the need for educating both human medical practitioners and the public in these matters; one important way of doing this being by making ourselves seen and heard at these congresses and similar meetings. There was an excellent attendance at the Veterinary Inspectors' Conference which took place on the Wednesday, the President, Prof. Penberthy, gave an exemplary and interesting address, this being followed by thoroughly practical papers by Mr. Ascott and Mr. Stableforth, the former treating with the "Milk and Dairies Bill," the latter with "Tuberculosis in Cows," each of these eliciting some discussion which would doubtless have been considerably prolonged had more time been at our disposal, but as this was decidedly limited the speakers were necessarily obliged to keep strictly to the title-matter of the paper under discussion in each instance, and as the first mentioned paper was referring to a condition of affairs which, in its original original composition, is never likely to be put into practical compulsory working form; the discussion on this was necessarily of a somewhat vague character, while the subject of "Tuberculosis in Cows" in the narrow sense in which it had at that Conference to be dealt with, would have been much more suited to a meeting of medical men exclusively, than to a meeting composed of members of other branches of sanitary science, and in its turn suffered in consequence.

The paper on Public Abattoirs was well received and obtained the support of practically the whole of those present, and thereby was accorded the distinction it justly merited.

By, to me, some inexplicable circumstance, only the "abstract" of my own paper entitled "Transmission of Diseases of Animals to Man" was printed, consequently no one attending the meeting knew the details of the subjects contained in it, so that it could only be discussed in a very cursory and superficial way, and to but very little purpose, however, this paper was not singular in receiving this treatment, for at least to one other the same attention was accorded.

Reference to the tuberculosis question was a prominent feature, in the sectional meetings other than that of the veterinary inspectors, and it seemed to me that one could not fail to be impressed with the idea that, speaking generally, evidently the human medical practitioner intends to try to dominate the veterinary surgeon in administering the "Milk and Dairies Bill" when it becomes law, both in the matter of professional official position, and also in the important, if more prosaic, matter of remuneration; for, although some few speakers, notably Dr. Hamilton, Hertfordshire, expressed hopes, and even convictions, that human and veterinary practitioners would work smoothly and amicably together, yet even these conciliatory gentlemen made no mention of being prepared to share the "fees of office" equally with the veterinary surgeons, and as it is not to be supposed that Local Authorities will pay two fees for one job, unless divided equally, one must be bigger than the other. Which is to get the larger share? But after all, has not the (human) medical practitioner some amount of justice on his side, and a good excuse to plead his right to the attitude he takes up in connection with this matter, inasmuch as some of the veterinary inspectors under the Tuberculosis Order are untrained and unqualified men, and it cannot be right to expect qualified medical practitioners to work with, and on the same terms as these?

I mention this because this was about the greatest obstacle I had to overcome in impressing Mr. John Burns with the unfairness to members of the R.C.V.S., in the working of the Tuberculosis Order and the "Milk and Dairies Bill," supported as it is by the action of the

Council of the R.V.C., *vide* the Veterinary Surgeons Amendment Bill.

The Association of Veterinary Inspectors has, rightly, decided to ignore Registered Practitioners and other unqualified inspectors, by refusing them admission to the Association, and I am curious to learn in what light our foreign visitors to the International Congress will regard the *levelling-down* of the veterinary medical profession in this country, whether they will welcome and meet on equal social and professional terms these fortunate individuals who, by an uncostly and unlaborious process, obtain the "posts of honour" (?) in our profession.

Before closing I wish to compliment and thank Mr. Dixon, of Leeds, for the effective way in which he championed the cause of the veterinary profession throughout the whole Congress, for I assure you that any good that this profession may derive from this Congress will in no small measure be due to the tact, energy, and perseverance of our recording Secretary, Mr. Dixon.

Mr. BURT thought they also owed a debt of gratitude to Mr. Archer for attending the Congress as their delegate and preparing the report, and with the President's permission he desired to propose that a hearty vote of thanks be accorded him for it.

Mr. STUART seconded, and the meeting agreed.

Mr. ARCHER: Thank you, gentlemen, very much for your vote of thanks. I should like to add that I have only included in this report what was, in my opinion, of interest to and likely to benefit the members of the profession.

The PRESIDENT said that, with the approval of the meeting, they would next deal with the matter for which the veterinary inspectors had been specially invited, and in connection with this he would like to read them an extract from a letter which had been received from Mr. Baxter, of Christchurch, after which he would ask Mr. Toope to open the discussion. Mr. Baxter, in expressing his regret that he could not accept the invitation to attend that day wrote that "as a veterinary inspector for a section of Hants. he was satisfied in the meantime with the treatment he got at their hands. He had had experience of County Councils in Scotland and found them "much nearer the bone" than the County Council of Hants." Mr. Baxter further expressed the opinion that the fees to swine fever inspectors should be cut down, as they seemed to know little about the diagnosis of the disease.

Mr. THEO. C. TOOPE, in complying with the President's invitation to open the discussion, observed that he felt more or less in the position of a missionary preaching the gospel of unity—(laughter)—but at all events he was not addressing the heathen, and he had no doubt that his remarks would be received in the spirit he intended them to be. He had come there that day for the purpose, he hoped, of putting some of them in the way of obtaining better fees. That had been his aim for some little time past, and he thought he could say with some little success so far as his own county of Kent and some others were concerned. As to the necessity for union among themselves, he thought there could be no two opinions, and the only question was how they could best produce this unity. He held that it could best be brought about through the medium of the existing Societies, and his own proposal was that each Society in the area covered by the Southern Branch of the National should form a veterinary inspectors section, and that the veterinary inspectors section should, whenever necessary, deal with matters affecting themselves at, or prior to, the general meetings of the Society. If the particular matter requiring attention was of general interest to the other members of the profession, as well as to those who were inspectors—and

there were a large number of questions that were of interest to those of them who did not happen to be inspectors—it could be dealt with along with the other business of the meeting, but if the matter affected the veterinary inspectors only it could be dealt with by themselves prior to the ordinary meeting. They had already got this plan in operation in the South Eastern Society; the meetings of the veterinary inspectors section being called for the same day as the ordinary meetings of the Society, and what he wanted them to do that day was first of all to form a distinct veterinary inspectors Committee, consisting of one or more inspectors from each county or division of such and that that Committee should consider and deal with all matters affecting the veterinary inspectors. By adopting this plan any resolutions passed by the Veterinary Inspectors Committee could be passed on through the Branch Society to the National Society in the same way as the question of the fees had been passed on by his own Society. There was not the slightest difficulty in carrying out this plan. All that was necessary was to call the meeting of the veterinary inspectors half-an-hour or an hour earlier, and invite them to remain to the general meeting of the Society afterwards. This should have the effect of considerably augmenting their numbers also. The fees paid in many counties were admittedly bad. Some inspectors were satisfied with them—as the gentlemen whose letter they had just heard read. Some were easily satisfied, but were they satisfied with their existing fees? He had no hesitation in saying that the fees offered by some counties might satisfy a chimney sweep, but they certainly should not satisfy a professional man. He did not suggest for one moment that they should produce a scale of fees and attempt to force it upon the Authorities. If, however, they could produce a scale of fees that had met a general approval, and by means of deputations from the veterinary inspectors to the Authorities, they could satisfy the latter that the scale submitted was just and fair and had been accepted by other Authorities, they would be going a long way towards attaining their ends. With regard to the duties under the Act, he strongly advised every veterinary surgeon to claim his full duties, and not do as some had done, give away the microscopical work. If it were impossible for various reasons for the inspector to do this work himself, surely, instead of handing it over to others outside, he should hand it over to those members of their own profession who were able to do it. Why should they encourage analytical chemists to do this work for them when there were plenty of men in their own profession who could do it? At the last meeting of the South Eastern Society at Ashford this very matter cropped up on receipt of two letters from veterinary surgeons in Surrey, drawing attention to the fact that an analytical chemist in a certain town was advertising that he had time to do this work for veterinary inspectors. Again, if it were necessary that evidence should be given as to whether there were bacilli or not, surely it was to their interest that that evidence should come from a veterinary surgeon rather than from a chemist.

He had been struggling with the subject of the fees received from the insurance companies for some time now. As Mr. Morris would put it, he had focussed it to a coarse adjustment, and he was now bringing the finer adjustment to bear; and he thought that within the next few weeks the National Society would be in a position to put them in the way of obtaining better fees for their services in that direction.

Mr. WALTER BURT expressed himself as very much obliged to Mr. Toope for his remarks. He himself happened to be a veterinary inspector. He did not say that he was satisfied, but it appeared to him that the whole thing turned on this: that the members of the Society who were not veterinary inspectors, and whose

toes they often trod on, could not be expected to have much sympathy with those who were. Personally, he did not expect sympathy from his fellow practitioners, but it was no use blinding oneself to facts. They might say he was a cynic, but he had come to the conclusion that by far the larger proportion of their own profession were exactly the same as the larger proportion of mankind in general, and were always and necessarily on the look out for themselves; and they could not get away from the fact that there were many veterinary surgeons who objected very strongly to the veterinary inspector. He admitted it would be a very good thing if they could bring these men and the veterinary inspector together, but he was afraid that to ask for the assistance of other members who were not veterinary inspectors to improve the position of those who were, would be putting somewhat a strain on human nature. He was inclined to think that the veterinary inspectors must fight for themselves. There was also this to remember—that if they increased the fees sufficiently they would find the Authorities would be wanting to appoint whole time inspectors. If local authorities found they were paying say £400 a year in fees, they might decide that they could for the same expenditure obtain a splendid man who would devote his whole time to the work with probably much better results. The appointment of whole time men, too, would not be open to the same objection, probably, from the individual veterinary surgeon, because the latter did not object so much to the whole time official as he did to the fellow practitioner who came on to his preserves from a neighbouring district. He was rather lucky himself in the fact that they were all more or less friendly in his district, and he should consequently not mind going to any of his brother practitioners, but he could conceive it quite possible that if a man sent his slides to another practitioner it would not be long before the fact would leak out, and the other men would be in the running for the inspectorship. He quite agreed that it was desirable to keep this milk business in the hands of the veterinary profession, and he also agreed as to the desirability of co-ordination of veterinary inspectors, but he candidly confessed that he could not see what good a veterinary inspectors' branch was going to do the Society, or what good it was going to do the veterinary inspectors for that.

Mr. STUART remarked that he was not a veterinary inspector, and he did not intend to be, but he quite saw the force of Mr. Toope's arguments, and he also appreciated the force of what Mr. Burt had said. Mr. Burt, however, was in a somewhat unique position; he was in the midst of a lot of pals who always worked well together, and consequently he was probably much more favourably placed than many others were. He honestly thought that they ought to work together for one end, and that was the advancement of the interests of their profession. It was becoming more and more a question of union with every calling, and if they did not adopt the same principle he was very much afraid they would find they would be left in the end. He thought they ought to make up their minds to support the veterinary inspectors, and follow the advice given them by Mr. Toope.

Mr. ANGWIN had listened with considerable interest to Mr. Burt's remarks and also to the somewhat Utopian idea Mr. Toope had expounded to them; but Mr. Toope must remember that their Societies were generally small and that they wanted members and if their Society were going to uphold the inspectors, he thought they ought to be members of their own or some other Society. Their doors were open to all veterinary surgeons.

Mr. MORRIS did not think there was danger of their ever getting whole time inspectors appointed—for this reason. In East Sussex, to take his own district, there were sometimes several sales and markets

taking place on the same day. How could one man attend them all? He certainly thought, however, that they ought to get better fees for the work they had to do. In a case of anthrax, for instance, it often meant going fourteen miles for threepence a mile, and half a guinea for inspecting a carcass, and then coming back and getting nothing for the microscopical examination. It was also much the same with mange. He thought they ought to make a little more stand over this microscopical work. He quite agreed, too, with what had been said about keeping the microscopical work in their own hands, and if they could not do it themselves they ought to be careful who they employed to do it for them. Then, again, with regard to their diagnosis in cases of anthrax, he thought more attention ought to be paid to it. Surely it would be better for the county to pay half-a-guinea for a microscopical examination and save the cost of the wood and coal required to burn a large carcass not affected. Personally, he thought that if that Society wanted to increase its membership it would do well to form this Veterinary Inspectors Branch.

Mr. DELLA GANA, as one who was not an inspector, remarked that he had been very much interested in the discussions they had had. They had heard a great deal said at different times about the incompetence of many of those who were acting as veterinary inspectors, but he should like to know why it was that such incompetent people got the appointments. (Laughter).

Mr. BURT, speaking as a veterinary inspector, I should say it is a matter of ill luck. (Laughter).

Mr. PRITCHARD, on being appealed to for his views, said that he could only tell them what had been done in West Sussex. When the Order was issued they held a meeting in London, and they there decided to ask to be allowed to do the work for which they ought to be qualified. Then the seven inspectors in West Sussex had another meeting at Horsham, at which it was decided to forward the scale of fees suggested by the National to the County Council, with a request that that scale might be adopted for West Sussex. The Clerk to the Council afterwards wrote acknowledging the receipt of this, and stating that the matter was under discussion by the Committee, but nothing more had been heard of it since. He mentioned this to show that in West Sussex, at all events, they were unanimous, and that they had not lost any time.

Mr. BURT remarked that the inspectors in East Sussex also had a meeting at Lewes, and a deputation appeared before the County Council. There, again, the matter was under discussion; but that was as far as it had got, and in all probability it would go on being discussed.

Mr. H. SMITH mentioned that when he approached the Clerk to the County Council for West Sussex, with reference to sending in his account he was told he must not send in his bill until they had decided what fees they were going to pay.

Mr. RIPLEY thought the County Council had been very fair up till now.

Mr. STUART remarked that not being an inspector himself, perhaps the President would oblige him by telling how these appointments were made.

The PRESIDENT: I am afraid I don't know anything about that.

Mr. MORRIS said he believed the procedure was this:—First they had to get a recommendation from the sub-committee for their own particular district, and that the local sub-committee recommended one to the executive committee, who made the appointment.

The PRESIDENT, interrupting, observed that he was afraid the discussion was getting a little wide of the object of that meeting. They had asked the veterinary inspectors to meet there for a definite and specific

purpose, namely, organising their forces, but at the present moment instead of organising they seemed to be simply criticising. It seemed to him that one of two courses was open to them. Either the veterinary inspectors might like to organise themselves, or the Southern Counties Society could decide to form a veterinary inspectors branch as suggested by Mr. Toope.

Mr. STUART, to bring the discussion to a definite issue, proposed that steps be taken to form a Veterinary Inspectors Section with their own Committee and Hon. Secretary.

Mr. CALLOW seconded this, and on being put to the vote it was agreed to *nem. con.*

Mr. TOOPE remarked that the next course would be to write to the veterinary inspectors in each of the counties covered by the Society asking them to suggest names for the Committee from their own particular county. The success of the South Eastern Society had been largely due, in his opinion, to the efforts they had made in this direction, and he must say he thought they had come to a wise decision. Veterinary inspectors were too wide apart to be able to form an association of their own, and if they made the Society the centre for them they would find they would soon become members of the Society.

The PRESIDENT: I should like to ask you, Mr. Toope, whether you think notices should be sent only to those inspectors who are members of our Society or not.

Mr. TOOPE: I should say invite every one in the first instance, but the members of the Committee which you will appoint, I take it, at your next meeting, should be members of your Society.

Mr. ANGWIN handed round for the inspection of the meeting two interesting X-ray photographs. One was an X-ray of a split pastern, and the other was a photograph of a cat which had been shot climbing a tree and in which the pellet had entered above the pelvis and had travelled down the leg to the centre of the femur.

He also mentioned that he had had an interesting case recently of a horse being poisoned from eating tamarisk hedge. He had always been under the impression that tamarisk was not poisonous, but there were several kinds of tamarisk, and in this instance the animal was clearly poisoned by eating it.

Mr. TOOPE remarked that the photographs were both of them exceedingly good. One could deal with a small animal fairly easily, but a larger one presented a considerable amount of difficulty. It was very difficult to keep them still for one thing, another difficulty was that the tissues were so thick that one needed a very long exposure before one could get a satisfactory negative, and very often when they got the negative they could not get a decent print from it. It was very interesting work, and he thought more use might be made of it in diagnosing difficult cases of fracture.

Mr. ANGWIN: If you want to take an X-ray of a horse it is not a bit of good doing it with small power. You want a coil that will throw at least a twelve inch spark; and the next thing is that you must be in the dark. It is, as Mr. Toope says, very interesting work, but very expensive.

Mr. CALLOW proposed a hearty vote of thanks to the President for his hospitality that day, and this was seconded by Mr. Smith, and carried by acclamation.

A similar compliment, on the proposition of Mr. Archer, seconded by Mr. Callow, was also paid to Mr. Angwin for bringing the X-ray specimens. This terminated the proceedings.

A. H. ARCHER, Hon. Sec.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered.*
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
Gr. BRITAIN. Week ended Oct. 4	9		11						15	19	2	36	357
Corresponding week in	1912	10	10			2	2	4	19	25	3	26	409
	1911	19	32		8	25	3	8			2	51	685
	1910	33	35				11	21			4	24	196
Total for 40 weeks, 1913	420		464				122	304	2018	4022	136	1904	25244
Corresponding period in	1912	604	685		81	635	141	260	2434	5214	180	2371	31406
	1911	667	835		17	466	156	376			313	1972	23032
	1910		1114	1324	2	15	299	882			354	1114	10060

Board of Agriculture and Fisheries, Oct. 7, 1913.

IRELAND. Week ended Oct. 4	...	...	...	...	...	...	...	Outbreaks 3	3	1	1
Corresponding Week in	1912	...	...	1	1	...	...	2	4	4	15
	1911	...	...	...	...	...	...	...	4	...	47
	1910	...	...	...	...	...	...	...	2	1	...
Total for 40 weeks, 1913	...	...	...	...	...	...	...	105	397	118	714
Corresponding period in	1912	...	3	3	30	264	...	55	270	190	1532
	1911	...	7	14	...	...	2	52	269	104	1812
	1910	...	5	8	...	...	1	60	366	74	1708

* These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Oct. 6, 1913

NOTE.—The figures for the Current Year are approximate only

* A= Diseased or Exposed to Infection

Registration of Rural Slaughterhouses.

At last monthly meeting of the Rural Council, the Deputy Clerk said a matter adjourned from the previous meeting for the attendance of the Medical Officer, was a communication from the Local Government Board with regard to slaughterhouses in the Leominster rural district.

Dr. Jones thereupon made a statement, in the course of which he said there were no regulations for slaughterhouses in the rural district. Slaughterhouses were regulated under an old Act of Parliament which only applied to towns, and the only way to get them regulated in rural districts was to get urban powers for the purpose, which were readily granted. An inquiry would be held by the Local Government Board at which all the butchers of the district would have an opportunity of attending. The Ledbury rural district had obtained those powers, and the butchers of that district preferred to have the slaughterhouses registered, because if those places were not registered anybody could slaughter anywhere. Slaughtering should be carried out under proper conditions. There were four slaughterhouses in the Leominster rural district, and they were now under practically no supervision. It did not mean that a man who killed a solitary sheep or pig occasionally would have to have his premises registered, but those who habitually used slaughterhouses.

Mr. Smith gave notice that he would move at the next meeting that they apply for urban powers for the purpose of regulating slaughterhouses.

After a prolonged discussion, the Chairman said he thought slaughterhouses should be registered in the interests of the health of the public. If a smallholder

had an animal that was not up to the mark he might kill it for human consumption, and to prevent that he ought to be registered also.

A serious report was made to Battle Rural District Council by the Sanitary Inspector. He stated that on receiving a telegram from the Hastings Public Health Department, with reference to a diseased pig sent to Hastings from a parish in the Battle rural district, he examined the carcass, which was ordered by the justices of the peace to be destroyed. The report further stated that five pigs were taken from their owner to a slaughterhouse in the Battle district, and were there killed. The pigs were afterwards taken to a Hastings butcher's shop, and the butcher noticing one was diseased reported the matter to the Hastings authorities. As there was not sufficient evidence of guilty knowledge Mr. Jenner did not advise the Council to prosecute in the case, but recommended that the interested parties be cautioned. The case might be taken as more evidence that slaughterhouse bye-laws were urgently required.—*Meat Trades' Journal*.

Prosecution under the Tuberculosis Order

Before the Marlborough county magistrates on Saturday, the 13th inst. The defendant was Mr. Kenneth Alexander MacAndrew, farmer, of Wexcombe Manor, who was charged by Supt. Mackie, having failed to notify the police, in accordance with the requirements of the Tuberculosis Order of 1913, that he had in his possession, on August 25th, a cow which appeared to be suffering from tuberculosis, with emaciation.

Supt. Mackie stated that on September 1st he saw the cow slaughtered. The animal was examined by Mr. J. McKerlie, M.R.C.V.S., whose certificate he produced, showed that it was suffering from advanced tuberculosis, with emaciation. Supt. Mackie added that he afterwards saw Mr. MacAndrew, who admitted that he was responsible for it being sent to Swindon market. On being informed that he ought to have reported the animal, defendant said he had no knowledge of the Tuberculosis Order, nor had he seen any copy of it posted up in the neighbourhood.

In cross-examination by defendant, Supt. Mackie said he examined two cows, a roan and a red, a few days before, in the presence of Mr. McKerlie. It was a red cow which was killed. The roan appeared to be in the worse condition. When tested for tuberculosis, the red cow reacted, but the roan did not. Reaction did not necessarily determine the existence or otherwise of tuberculosis. The roan cow was so bad that he hardly considered it necessary to test it.

Mr. J. McKerlie, veterinary surgeon, of Hungerford, called for the defence, said he tested the two cows, one of which responded to the tuberculin test, and the other did not. That which responded was killed by order of the Superintendent of Police. The other was subsequently killed, and was found to be suffering from abscesses in the liver. The latter cow was much worse in outward appearance than the other. There was nothing in the outward appearance of the red cow to show that it was tuberculous beyond being poor. The roan cow was more emaciated, and, therefore, more suspicious in appearance. Sometimes cattle in good condition—almost fat—were found to be suffering from tuberculosis.

Defendant was sworn, and stated that the cows referred to were old, and rather poor, but there was nothing in their appearance to cause him to be suspicious of tuberculosis, otherwise he would have called in the services of Mr. McKerlie. He had never read anything about the Tuberculosis Order, although he was aware that he was expected to know the provisions of the law.

Mr. McKerlie, recalled by the Bench, stated that, beyond being poor, there was nothing in the appearance of the red cow to cause an ordinary individual to suspect that it was suffering from tuberculosis. There were so many conditions leading to emaciation in cows that farmers did not as a rule consult a veterinary surgeon when animals were poor.

The Bench intimated that they had given careful consideration to the case, which was the first they had had before them under the Tuberculosis Order, and they had decided to dismiss it.—*North Wilts Herald*.

GLASGOW VETERINARY COLLEGE.

The new session of this College opened on Wednesday, Oct. 1st, after practically the reconstruction of the buildings. The College now consists of a splendid suite of rooms and halls, containing all the requisites for veterinary purposes. The College is recognised and subsidised by the Government through the Board of Agriculture for Scotland, as a central institution, and is under the control of a representative Board of Governors appointed by the various City and County Councils. Under Principal M'Call and his large staff of lecturers, the College is increasing in popularity every year, and judging by the number of pupils who submitted themselves for enrolment on the opening day, the College is likely to serve its purpose in the future more efficiently than ever.—*The Scottish Farmer*.

DISEASES OF ANIMALS ACTS, 1894 TO 1911.

Return showing the number of Premises on which the existence of TUBERCULOSIS has been notified to the Board of Agriculture and Fisheries during the month of September, 1913.

ENGLAND (Counties) *		ENGLAND (continued) *	
Bedford (Premises)	1 1	Wilts	39 50
Berks	3 4	Worcester	4 4
Buckingham	4 5	York, East R.	12 12
Cambridge	4 4	" North R.	7 7
Chester	43 46	" West R.	29 31
Cornwall	6 6	WALES.	
Cumberland	3 3	Anglesey	6 7
Derby	21 22	Brecon	1 1
Devon	20 20	Carmarthen	1 1
Dorset	5 5	Carnarvon	1 1
Durham	14 16	Denbigh	5 6
Essex	4 5	Flint	11 11
Gloucester	8 8	Merioneth	1 1
Hants	2 2	SCOTLAND.	
Hereford	1 1	Argyll	2 2
Hertford	5 5	Ayr	23 25
Huntingdon	5 5	Berwick	3 3
Kent	22 29	Bute	1 1
Lancaster	42 46	Caithness	2 2
Lincoln, Holland	1 1	Dumbarton	1 1
" Kesteven	8 8	Elgin or Moray	3 3
" Lindsey	4 4	Forfar	6 6
London	4 4	Haddington	2 2
Middlesex	8 8	Inverness	2 2
Monmouth	1 1	Kirkcudbright	7 8
Norfolk	7 7	Lanark	11 11
Northampton	5 6	Midlothian	
Northumberland	6 7	(ex City of Edin.):	4 4
Notts	11 11	Orkney	2 2
Oxford	1 1	Perth	11 16
Salop	11 12	Renfrew	1 1
Somerset	4 5	Ross and Cromarty	1 1
Stafford	15 16	Roxburgh	1 1
Suffolk	2 2	Stirling	2 2
Surrey	7 7	Wigtown	2 2
Sussex, East	6 6		
" West	1 1		
Warwick	8 9		
Westmoreland	2 2		
		TOTALS	529 578

* Number of bovine animals suffering from tuberculosis of the udder, tuberculosis with emaciation, or giving tuberculous milk, in respect of which notice of intention to slaughter has been received.

SOCIETY OF VETERINARY OFFICERS OF HEALTH.

The Sixth Annual Meeting was held on Friday, 3rd inst., in the County Buildings, Hamilton, and was attended by delegates representative of all parts of the United Kingdom. The President of the Society, Mr. Hugh Begg, F.R.C.V.S., Veterinary Inspector for the County of Lanark, occupied the chair. He extended to the delegates a hearty welcome, and in his presidential address dealt with the recent Tuberculosis Order. He said, however thankful they might be for the present limited Order, considering the lukewarm state of the public mind, it was evident to all—those who framed it, and those who administered it, as well as the stockowners—that until the Order was amplified it could not be considered a measure of eradication even in a remote sense.

It was agreed to hold next year's meeting at Kilmar-nock, and Mr. T. A. Douglas of that town was appointed

president for the ensuing year. The Secretary, Mr. A. M. Trotter, Glasgow, was re-elected.

Thereafter Mr. Thomas Munro, County Clerk of Lanarkshire, submitted a paper on "The Tuberculosis Order of 1913." A discussion on the paper followed, and was contributed to by Professor Dewar, Edinburgh; Mr. Parker, Newcastle; Mr. Lloyd, Sheffield; Mr. Robb, Glasgow; Mr. Dixon, Leeds; Dr. Erskine, Glasgow; Dr. Davies, Edinburgh; Councillor Bashford, Sheffield; Messrs. Storie, East Linton; Douglas, Kilmarnock; Brown, Invergordon; Anderson, Cupar-Fife; and Campbell, Berwick.

On the motion of Mr. Raynard, Perth, a vote of thanks was accorded Mr. Munro for his paper, and as a practical outcome of it and the subsequent discussion, the following resolution, moved by Mr. Lloyd, and seconded by Mr. Robb, was unanimously adopted:—"That the Board of Agriculture be urged to so widen the scope of the Tuberculosis Order of 1913 as to include cattle in it which can be demonstrated by microscopical examination of the discharges to be actively capable of spreading infection to other animals."

The delegates afterwards adjourned to the county laboratory, where Dr. J. Hume Patterson, county bacteriologist, gave a microscopical examination of milk for the detection of tubercle bacilli.

The company dined in the County Club, and thereafter took part in a drive to the High Parks and Cadzow Castle.—*The Scotsman*.

Cruelty Charge at Folkestone

On Saturday, Sept. 27, Alderman Vaughan in the chair, Charles Ramsden was summoned for working a horse in an unfit state, and John Harnett was summoned for causing the horse to be so worked.

Mr. J. W. Gambrill appeared at the instance of the Horse Owners' Association, and pleaded not guilty.

P.C. Whitehead said that the animal was very lame on both fore legs. Witness stopped defendant Ramsden and pointed this lameness out to him, and he said "it is a bit." Witness examined the horse and found the tendons much inflamed and the feet tender to the touch. Defendant said he had only driven the horse for a fortnight, and he had not pointed out the lameness to Mr. Harnett. Witness thought the horse was 20 years old, and he considered it to be an act of cruelty to work it in its condition. At 4 p.m. on the same day witness, with Inspector Bennett, R.S.P.C.A., saw the horse in the stable, and at 8.15 p.m. he saw Mr. Harnett, the defendant, at his house. Inspector Bennett asked him whether he had any explanation to make, and he replied, "I take full responsibility for my horses. I admit this one has gone a bit stiff for some time, but it went better yesterday than it has done for a long time. The horse was fresh shod yesterday. That is all I know."

Inspector Bennett, of the R.S.P.C.A., said that the animal was about 20 years old. It was extremely lame on the near fore leg. The tendons were very much inflamed, contracted and painful to the touch. The fetlock joint was deformed. The horse had also got ring-bone. The heels of both fore feet were tender to the touch. The animal was totally unfit for work. It would be an act of cruelty to work the horse in its existing state.

In answer to the Chairman, witness said the mare was destroyed on Monday afternoon in accordance with witness's suggestion.

Mr. T. C. Gillard, veterinary surgeon, said that he examined the horse on Sept. 15th. The animal was intensely lame in the near fore leg. The cause of the lameness was the chronic condition of the tendons and the deformity of the fetlock. The animal was too lame

to trot—witness merely had it walked up and down for purposes of examination. It was quite unfit for work, and must have been so for some time. The lameness was of several months' standing.

Ramsden said he had been employed by Mr. Harnett for a month. He started on his round at 9 a.m. on the day in question. The horse was not lame then. Witness returned after two hours, and the horse was not lame then. He started out again at 11.30, and he did not notice the horse to be lame then. The day previously he drove the horse past Inspector Bennett on two occasions. Witness had received no warning from the Inspector concerning the horse. He thought the lameness must have been caused by the horse slipping shortly before witness passed the constable.

Edward Wm. Harnett said his father had been ill since November, and witness had managed the business. He had always impressed on the stablemen never to take the horses out unless they were fit. On the morning in question, witness saw the horse start out at 9. She was then all right. She covered the round in the same time as usual.

Chas. Alfred Davies, stableman in the employ of Mr. Harnett, said that on the morning in question the horse did not appear to be lame.

Mr. H. B. Eve, veterinary surgeon, said he inspected the horse on Sept. 13th at the request of the Horse Owners' Association. The horse was absolutely dead lame on the near fore leg, the result of complete breakdown of the back sinews, caused perhaps by slipping on the road. He received instructions from Mr. Harnett to destroy the mare.

Cross-examined: In all probability the horse would start out "groggy." Witness did not think it came out legally sound, but it might have come out workably sound. There was a vast difference between the two terms.

The Magistrates retired to consider their decision. They dismissed the summons against John Harnett, on the grounds that he had not been connected with the business for some time. As the horse had been destroyed, the summons against Ramsden was dismissed, on payment of 13s. 6d. costs, and the veterinary surgeon's fee of £1 1s.

British Empire Trophy for Bacon at the Dairy Show.

The Council of the British Dairy Farmers' Association has decided to create a special class at the Dairy Show, to be held in the Royal Agricultural Hall, London, October 21st to 24th, 1913, inclusive, for bacon cured anywhere throughout the British Empire. There are at present a number of classes for bacon and hams at the British Dairy Show, but hitherto the exhibits in these have been confined to the United Kingdom. The Council of the British Dairy Farmers' Association have come to the conclusion that the time is opportune for the creation of the class referred to.

It is proposed that the class should be open to bacon curers in the United Kingdom, the British Colonies, British Protectorates, and the British Empire. The exhibits must consist of two sides of bacon smoked, and two sides of bacon pale dried. The weights admissible for this competition will be not less than 56lb per side, and not more than 68lb per side. The curing must be done in the Exhibitors' own premises, but the drying and smoking may be done in the United Kingdom, under a certificate from a duly accredited representative of the Governments concerned.

The trophy referred to will take the form of a cup, value fifteen guineas, as first prize; cup, value five guineas, second prize; and another, value two guineas

third prize, as well as other awards. It is proposed that the entry money for the class should be two guineas per exhibit.

The Secretary will be glad to give any further information.

FREDK. E. HARDCASTLE, Secretary.

British Dairy Farmers' Association.
12 Hanover Square, London, W.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, Sept. 26.

REGULAR FORCES. ARMY VETERINARY CORPS.

The following to be Lieuts. (on probation):—C. Davenport, S. W. Marriott, F. J. Weir, J. Smith. Dated Sept. 27.

SPECIAL RESERVE OF OFFICERS. ARMY VETERINARY CORPS.

Cadet R. S. Little, from Royal (Dick) Vet. College, Edinburgh O. T. C. to be Lieut. (on probation). Dated Sept. 27.

Oct. 3.

REGULAR FORCES. ARMY VETERINARY CORPS.

Lieut.-Col. R. W. Raymond retires on retired pay. Dated Oct. 4.

SPECIAL RESERVE OF OFFICERS. ARMY VETERINARY CORPS.

M. R. Lawson to be Lieut. (on probation) Dated Oct. 4.

Oct. 7

REGULAR FORCES. ARMY VETERINARY CORPS.

Maj. F. Eassie, D.S.O., to be Lieut.-Col., vice R. W. Raymond, retired. Dated Oct. 4.

Maj. A. England retires on retired pay. Dated Oct. 8.

SPECIAL RESERVE OF OFFICERS. ARMY VETERINARY CORPS.

D. H. Dimes to be Lieut. (on probation). Dated Oct. 8.

Owing to the prevalence of mange among the horses of the Woolwich Garrison, all unaffected animals are being "camped out" away from the barracks, and an order was issued on Tuesday prohibiting all sales of Army horses until further orders.

Personal.

GREENFIELD.—On Sept. 5th, at Tientsin, N. China, the wife of Capt. Herbert Greenfield, A.V.C., of a daughter.

M'FADYEAN—CHUTE.—On the 7th October, at St. Cyprian's Church, Dorset Square, by the Rev. W. H. Ward, M.A., assisted by the Rev. D. Ross Fotheringham, M.A., Vicar of Charing, Andrew, eldest son of Sir John and Lady M'Fadyean, to Dora, younger daughter of the late Charles Kean Chute and of Mrs. Chute.

STEWART—THOMSON.—At the Station Hotel, Inverness, on the 2nd October, by the Rev. A. A. Cooper, of the United Free High Church, Inverness, Capt. Howard Crichton Stewart, A.V.C., to Margaret Fraser, second daughter of Robert Thomson, Poyntzfield, Invergordon.

OBITUARY

ABRAHAM GEORGE HENRY THORNTON, M.R.C.V.S., Newton Heath, Manchester. Graduated, Edin: April, 1869.

Mr. Thornton died on October 3rd from mitral stenosis. Aged 67 years.

MOSES B. SCOUTER, 146 Cambridge Road, Glasgow.

Glas: July, 1885.

Death occurred on Oct. 7th, from chronic Bright's disease, at the age of 66 years.

CORRESPONDENCE.

THE PANAMA CANAL AND SOUTH AMERICAN DISEASES.

Dear Sir,

In connection with the now approaching opening of the Panama Canal I am taking the liberty to warn, through your columns, veterinary surgeons and agriculturists of a new focus for the introduction of disease into the British Isles. In Chile and Peru is produced hay known as Alfalfa. It is a legume more or less the same as Lucerne, but yields three or four crops a year. The Peruvian differs from the Chilean in being longer in the stem, and the stem of the Chilean is hollow. In these countries one passes nine months of the year without rain, and the whole of the crops are watered from a series of canals which bring down the melting snow from the Andes. These canals are often used for the animals to drink from, and to carry away sewage, excrement, etc., which is deposited on the growing crops. So dry is the climate that the alfalfa is cut one day and made into tight trusses, or *fardos* the next. These *fardos* weigh about 90 kilos. (200 lb), and without grain of any kind will keep a hard-working horse for more than a week. My own saddle horses only get half a *fardo* each week allowed them, and they are quite good for forty kilometres a day, and my weight with saddle is 75 kilos., but these get several halts. This alfalfa I find to be the most nutritious and cheapest food I have encountered in all my professional career. It is grown in a country famous for its nitrates. The very soil is full of them, indeed so rich that the Chilean farmers rarely use any form of manure.

But this is quite a bye-question. The country of Chile in its agricultural zone, i.e. between Coquimbo in the North and Port Monte in the South, is very much infected with foot-and-mouth disease—the authorities of Santiago fine the owner £1 for every cow he sends to market which is detected—but against this disease remedial means are taken. The best I have found to the present is Chlorate of Potash, 60 grams in one half litre of water, repeating in ten days, and not treating the local eruptions. The disease here seems more benignant than in the Argentine, due, perhaps, to the more benignant climate.

Another disease very prevalent here is known as *mal de maeda*. This has been investigated this last year by my colleague, M. Blier, formerly of Lyons, bacteriologist, but as his report is not yet ready I can only tell you that the symptoms are almost exactly the same as described by Hayes (Vol. I.) of Redwater in South Africa; but Blier, in his experiments, has found a spirilla which he believes to be the cause. I will send you further details later.

Anthrax is the plague of the fat cattle breeders, but singularly enough I have not noticed it among the dairy cattle to any great extent. I myself got anthrax through a post-mortem on a horse, which died within two hours—I enclose you notes taken at the time, but they are very imperfect. The people here eat the flesh of dead animals, and as many as 20 or 30 in one village have died, but the authorities are very lax and try to shut the door after the horse has run away.

Another disease prevalent here is *Mal de Caderas*, and bearing in mind that so good a judge as Mr. Hickling, of the Hackney Society, has said the native Chilean pony is the best type of pony he has ever seen, it seems a pity to have to say this. My experience, clinically, of this disease

is that it is one of the most insidious and takes two forms, acute and chronic, but of this more anon.

My purpose is to warn, through your widely read journal, those interested in the feeding of stock and the elimination of disease, that as soon as the Panama Canal is open it is a new "open door." One ton of alfalfa can be landed in London for £6, and who knows how many diseases for make-weight.

WM. J. MOODY, F.R.C.V.S.

Santiago, Chile. Sept. 9th.

LAMENESS.

Sir,

I beg to thank the writers who criticised my note on the above subject. One writer, however, "Anti-Humbug," has rather misunderstood my remarks in a few instances, and a little explanation will probably show that we do not differ to a marked extent.

1. I am not "very sensitive of what the public think of, or care about, our diagnoses." Personally, this matter does not trouble me, but from a commercial aspect one has to pay attention to the views of the public, otherwise that very important book, the ledger, would suffer, and in these days of competition and motor traction, one is compelled to pander to the whims and caprices of clients. Probably if I were in the happy position of being independent of practice, or had laid by the nest egg, I should find no better form of amusement than telling clients just what my candid opinion was of themselves and of their animals. Probably, too, they would appreciate such opinions, when they were aware that I did not take the pains to retain their patronage or submit to their vagaries.

2. I did not intend my remarks to apply to the junior members of the profession. In my experience the "Sir Oracles" belong to the senior members, those "dressed in purple and fine linen," who, from their standing and reputation are able to assume the mantle of infallibility, and who, like the stoics of old, "never are in doubt, never suffer remorse, never change their minds, and never made a mistake."

It is the junior member who is conscious of committing errors—too conscious at times, when he has to compete with one of the type described by the poet as "most ignorant when he's most assured."

I do not agree that wisdom always comes with experience, for examples are not wanting to demonstrate that in mature age many men persuade themselves that they cannot make mistakes; the juniors, on the contrary, very soon find out the veracity of *Humanum est errare*.

3. With reference to navicular disease, I am quite aware that in the early stages a very careful examination of the navicular bone is necessary in order to detect the lesions. But I am also aware that many cases are diagnosed as navicular disease, the horses pass into other hands, and the after-history shows that they go sound. I am very sceptical as to the possibility of a horse affected with navicular disease being able to go sound for any length of time. No doubt it is easy to assert that the seat of lameness is in the navicular bone, but to prove it is quite another matter.

It would be interesting to ascertain the number of aged horses that on post-mortem examination would show perfectly normal navicular bones, i.e. on histological examination.

4. With reference to the remark "Whining is symptomatic of a peevish disposition," I may suggest that if all were satisfied with the present state of affairs and did not whine, or even bark and bite occasionally, progress would be slow or non-existent. It is well to enquire into existing views and methods, and to challenge their accuracy. It is of advantage to be sceptical, and not to blindly follow the dicta laid down by either authorities—text-books or successful practitioners. It is right and proper, although not always pleasant, to confess ignorance on many points, and to cast aside the veneer of pharissical superiority which is so often assumed.

Energies devoted to exposing the shams and sophistries that exist in the profession are by no means wasted. Nothing does more to purify the professional arena than to demonstrate to the public that men of supposed great

skill—the giants of their time, the great Moguls whose opinion is never questioned—can make mistakes quite as readily as the juniors, who, while possessing high ideals, are unable to conceal their errors. The latter often lack the Pecksniffian code of morals which, boldly practised, so often leads to commercial success, and noble reputations. —Yours, etc.,

E. WALLIS HOARE.

CAUSE AND PREVENTION OF "MILK FEVER."

Sir,

As I am interested in this subject and would like to give every man his due, irrespective of nationality, I should be much obliged if Mr. A. H. Archer could inform us, through the medium of your valuable journal, the cause of parturient apoplexy, the name of his authority who demonstrated that cause, and also of him who forestalled Herr Schmidt? I would also like him to give us the title of the papers of his authorities—the journals in which they are recorded, the pages and dates?

Until I read Mr. Archer's article in your last issue I was under the impression that it was acknowledged by the veterinary world that the cause of "milk fever" was not understood, and that the credit of introduction of the successful treatment of it belonged to our Danish *confrère*, Herr Schmidt, who deserved the thanks of the stockowners of the world for saving to agriculture many thousands of pounds sterling every year.

Is Mr. A. H. Archer unaware that professional and scientific men should know no nationality, in science or practice, and that each member should treat the other with that courtesy which is expected of all men of knowledge.

It should be remembered that Frenchmen were the first to establish modern veterinary schools and to disseminate scientific knowledge of the diseases of animals. Notwithstanding the mite we have added since, where should we be to-day without our brother "the foreigner" of whom Mr. Archer speaks rather cynically!

If Mr. Archer's ungenerous insinuation, that the credit of the treatment "accidentally stumbled" across by Herr Schmidt did not therefore belong to him, were correct, could not the same be said of Lister, considering that improvements of antiseptic and aseptic methods have displaced the carbolic spray, etc.?

Personally, I look upon Schmidt's method as the greatest discovery in practical veterinary medicine; it has reduced a relatively fatal disease to a relatively curable one.

In conclusion, Mr. Archer should remember that *nothing is accepted by the scientific minded until it is proved*; that discoveries are generally made by accident and by those who have the genius to observe fresh phenomena and interpret them in practice or in science.

JUSTITIA.

AIDS TO THE V.V.B. FUND.

Dear Sir,

I noticed the letter of Wm. T. D. B. in your last issue, and thank him for his suggestion.

As a matter of fact I have in my surgery a collecting box for our Fund, principally supported by coppers from poor people who pester us for a "little drop of horse oils for rheumatism." I recently opened it, and found 15/-, a useful help for us.

I am giving the question of supplying collecting boxes further consideration, and making enquiries as to cost of same, and shall be pleased, on receipt of request, to send one on.

The wives and sisters of veterinary surgeons might also be asked to help in forwarding the objects of the Fund by arranging afternoon concerts, whist drives, etc., amongst their friends.

It is of the utmost importance that these ladies should be informed of the existence of the Fund, as I am certain many in very poor circumstances could be helped if we could only get at them. Genteel poverty is harder on those who bear it than any other form.—Faithfully yours,

WM. SHIPLEY, Hon. Sec. & Treas.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1319.

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VOL. XXVI.

THE KINNARD APPEAL CASE.

The balance has once more turned against the Royal College. The decision, as usual in such cases, is given on the letter of the law and not on the broader issue of the protection of the public. This duty of protection is in large measure delegated to the Royal College, and in the preamble to the Act of 1881 the words used are "to distinguish between qualified and unqualified persons," while Clauses 16 and 17 define the lines which the unqualified man may not transgress without liability to a penalty.

Obviously this leaves the old principle of *caveat emptor* untouched, and leaves us facing our old troubles of the unregistered man and the medicine vendor. One outcome of this position is that it becomes essential to educate not only our own men, but the public who employ us. If all men were of equal capacity, this would be a simpler question, since our qualification would be much nearer to a fixed quantity than it is. But educational tests do not gauge a man's capacity nor his character, either in our profession or any other; and it is for us, individually and collectively, to help to maintain a standard of knowledge and of conduct which may strengthen the feeble protection afforded us by the law.

THE COUNCIL MEETING.

The work of our Council at the quarterly meeting contains several items of interest, besides the essential routine, which constantly varies in detail, if not in character. Under "Parliamentary Committee" comes a draft Supplemental Charter, which contains provisions for a shorter qualification period for the Fellowship Degree, and for a diploma in Veterinary State Medicine, both which proposals have been before the profession for months past. Three other clauses concern internal management, and are not considered controversial in character.

The remarks on the report of the Library and Museum Committee are corollary to the financial statements of the past three years—not that of the past quarter, which naturally shows a temporary amelioration. The most important question was the proposed revision of the preliminary examination schedule. The recommendation to adopt the revision was deleted from the report of the Committee, and the motion was withdrawn at the Special Meeting.

Many of us will agree with the opinion of Maj.-Gen. F. Smith—at the Manchester meeting N.V.A.—that the time has passed when we should follow closely the educational lines of the Medical Council.

ANTHRAX IN THE HORSE.

Subject.—A grey mare, half-bred, five years old. This mare was bought by me personally on April 20th in the plains of Aconcagua River.

History.—This mare worked in a mowing machine when I first saw her, then in general work on a *hacienda*. On the morning of May 3rd a messenger came to tell me the mare was very ill with pains similar to colic. I couldn't attend myself at once so sent my assistant, qualified in the Argentine. He reported the mare was dead. I told him to wait for me, and went at once. To all outward appearances nothing was strange in the aspect of the cadaver, and nothing to lead to any suspicion.

I opened the cadaver and found a great amount of fluid in the abdominal and pleural cavities. This was quite clear, but with a specific gravity of 1024. More especially was this fluid encountered in the pericardial sac, and here it had a slightly yellowish tinge. The intestines were in an infiltrated condition like one finds in the muscles of *charbon symptomatique*. I at once suspected anthrax, and under microscopic examination my diagnosis was confirmed by a French colleague practising here.

Please note. There are no Sanitary Laws, or Board of Agriculture, or County Councils in Chile.

The sequel was, the man who took off the skin was attacked with malignant pustule, and although treated under the best medical advice, to save his life it was necessary to sacrifice his arm.

Further proof was demonstrated in my own person, for nine days after in my right wrist I noticed, late in the evening, a part very red in colour *but no pain*. In the small hours of the morning I noticed that the parts surrounding were very œdematous. As soon as daylight came I consulted Dr. J. D. Eastman, M.R.C.S., M.R.C.P., who is the only medical man here with a British degree and he at once applied iodine. By this time the characteristic pustules had appeared in this form



Afterwards the whole part was burnt out with the thermo-cautery, and injections of tr. iodine were made at the rate of 40 a day. I made a good recovery in about three weeks, but the effects of the iodine or the cautery—I don't know which—have left me with no sensation in my right thumb and first finger.

P.S.—As I write this, two years after, the sensation has returned; but in a change of weather I still feel a contraction of the original wound.

WM. J. MOODY, F.R.C.V.S.

Santiago, Chile.

ABSTRACTS FROM FOREIGN JOURNALS.

GENERALISED MYCOSIS IN THE OX.

P. Langrand, a sanitary veterinary officer of Paris, records the following case in a cow. In life, the animal showed numerous subcutaneous nodules disseminated over the whole surface of the body, and involving the limbs. These nodules were not adherent to the skin, were very resistant, were round or oblong in shape, and ranged from the size of a pea to that of a walnut. An indurated lymphatic cord was found in the carpal region, uniting three of the nodules. The skin in the region of the lesions was intact, and there could be no suspicion of the presence of larval *ostridae*. The subcutaneous lymphatic glands were normal. The nodules were perfectly distinct from one another, and were particularly abundant upon the neck and shoulders. In the regions of the submaxillary space, the abdomen, and the perineum, they were somewhat separated.

The cow was emaciated and coughing. Palpation of the retropharyngeal, subglossal, and parotid glands did not reveal any adenitis.

Some nodules appeared to be more deeply situated in the tissues than others. Post-mortem, some were found in the thickness of the superficial muscles of the brisket, abdomen, and thigh.

Post-mortem Examination.—The lungs contained purulent centres, isolated or grouped, varying from the size of a nut to that of the fist. At first sight they resembled tuberculous lesions, with the exception that calcification was absent. Some of these centres opened into bronchi, which then contained yellowish and very thick pus. The young lesions were the most interesting, as close examination showed them to be composed of several concentric layers of concreted pus, alternately brown and yellow, gradually becoming more resistant as they approached the periphery. Five or six successive layers could be counted, surrounding a softened centre. The most external layer was fibrous, and sent out prolongations into the surrounding pulmonary tissue, which was generally healthy.

The small centres were all of the same type, and the subcutaneous and muscular nodules showed a structure in all points similar to them. The large centres were caseo-fibrous and grouped, and formed lumps which attained the size of the fist, and in general were badly defined. Upon section, they still showed stratification.

The subcutaneous and superficial muscular nodules, if large, did not contain pus. They gave the impression of an elastic tissue of a grey colour. Upon section, concentric zones appeared, five to ten in number, alternately clear and dark, surrounding a central island almost as resistant as the remainder of the nodule. There was no trace of calcification, and the nodules were of the caseo-fibrous type.

The lymphatic cord of the carpal region was ochre-coloured and clearly caseous.

The lymphatic glands of the system were healthy, except the left bronchial and one mediastinal gland. The mediastinal gland was the size of the fist, and was transformed into a vast nodule of concreted pus in concentric layers. The left bronchial gland showed, at its centre, a pea-sized purulent nodule. Neither of these glands showed any trace of calcification.

All the viscera were normal.

Microscopical Examination.—Numerous microscopical examinations were made, but in no case could acid-fast organisms be demonstrated in either the pulmonary tissue, the subdermal nodules, or the mediastinal gland. The left bronchial gland alone, in the course of ten preparations which were made from it, yielded two acid-fast forms which resembled tubercle bacilli. Eight inoculations—subcutaneous and intra-peritoneal—were made upon guinea-pigs, and the results, though various lesions were produced, were negative as regards tuberculosis.

Langrand minutely describes the histology of the subcutaneous and muscular lesions, which proved to be inflammatory nodules comprising four perfectly distinct zones. The central zone was degenerated, and was composed of necrosed lymphoid cells and fairly numerous giant cells. Circumscribing this zone were several concentric layers of lymphoid and epithelioid cells undergoing chromatolysis and protoplasmic fusion. These layers were separated from one another by a clear tissue which had formerly been fibrous, and which was stained a very faint pink by hæmatoxylin-eosin. The appearances suggested that the process of necrosis had been effected in successive periods, with intervals of arrest of necrosis between each. This theory explains, to the author's mind, the alternation of clear and dark layers which was observed. The third zone was composed of intact lymphoid and giant cells, with a fourth fibrous zone circumscribing the nodule.

Each subcutaneous and muscular nodule had only one centre, and the degenerated centre generally contained one or more blood-vessels.

The young pulmonary lesions contained the same elements and structure as those just described, with central blood-vessels. In most of them, staining by hæmatoxylin revealed the existence, at the centre of the nodule, of a vegetable parasite characterised by filaments and spores. The filaments were either separate or tangled together, varied in dimensions, were often undulating, and terminated by conical enlargements.

This champignon-like parasite was found in all the pulmonary lesions. In the subcutaneous and muscular lesions it was not so abundant, but was nevertheless found. Its appearance in the latter situation differed with the age of the lesions. In old lesions the mycelial fragments were modified into involution forms; in young lesions, on the contrary, the parasites were very little deformed, and were similar to those found in the lungs.

While not being able exactly to identify this parasite, Langrand records its discovery as proving the existence of a champignon, other than the blasto-

myces and the sporothrix, which is capable of invading the different tissues of the bovine organism. Despite the negative results of the examination for tuberculosis, he is not certain, in the first case, whether or not the invasion of the organism by the mycelium had been dependent upon a primary infection by the tubercle bacillus. If, however, the tubercle bacillus had previously been present in the tissues, it had certainly left hardly any trace behind.

Langrand records the case as indicating a complication in the practical diagnosis of subdermal lesions, which may be thought to be tuberculous when they are really due to a generalised mycosis. In this connection he draws special attention to the peculiar concentric striation which was visible in the nodules, and which first led him to suspect that the lesions were other than tuberculous.—(*L'Hygiène de la Viande et du Lait*).

W. R. C.

Royal College of Veterinary Surgeons.

QUARTERLY MEETING OF COUNCIL.

A Quarterly meeting of Council was held at the College, 10 Red Lion Square, London, W.C., on Friday afternoon, 10th Oct., 1913. Mr. J. H. Carter, President, occupied the chair, and the following members were present: Major-General Thompson, C.B.; Profs. Bradley and McCall, Sir John M'Fadyean, Mettam, and Shave; Messrs. Banham, Clarkson, Dunstan, Garnett, Lawson, McI. McCall, Mulvey, Packman, Price, Share-Jones, Shipley, Slocock, Sir Stewart Stockman, Sumner, Trigger, and Wharam; Mr. George Thatcher, Solicitor; and Mr. Fred Bullock, Secretary.

MINUTES.

The minutes of the last quarterly meeting of Council, which had been printed and circulated, were taken as read and confirmed.

APOLOGIES FOR ABSENCE.

The SECRETARY announced that apologies had been received from the following gentlemen regretting their inability to attend the meeting: Messrs. Walter Burt, J. S. Lloyd, Freeman Barrett, Joseph Abson, Frederick Hobday, McKinna, and A. W. Mason.

OBITUARY.

The SECRETARY read the Obituary List.

ADMISSIONS TO MEMBERSHIP.

The SECRETARY read the following list of members admitted to the College since the previous quarterly meeting of Council:—

London College. Messrs. W. A. Austin, C. E. W. Bryan, J. Blackburn, R. Daubney, R. T. Davis, C. Davenport, G. van de W. DeKock, G. O. R. Grey, D. C. Greene, A. Hoskin, V. J. Hare, H. Hicks, W. Kendrick, A. V. Nicholas, A. A. Pryer, J. M. L. Penhale, J. Southall, W. L. Sheffield, A. R. Smythe, G. M. Vincent, and J. A. Ward.

Edinburgh College. Messrs. J. Conner and R. S. Little.

Glasgow College. Messrs. J. S. Moncrieff, R. McK. Lawson, and T. T. Taylor.

Liverpool College. Mr. C. W. Elam.

Dublin College. Messrs. J. J. O'Neill, T. G. Browne, M. P. Hatch, J. J. Hegarty, J. P. McNally, J. J. Mills, J. J. Pomeroy, T. K. Reddin, C. M. Stewart, and M. Twomey.

CORRESPONDENCE.

The SECRETARY read a letter dated August 12th from Mr. Charles Roberts expressing to the Council on behalf of his family and himself, their sincere appreciation of the kind resolution of sympathy passed at the last meeting of Council.

The Secretary announced that a circular had been received in reference to the Sixth International Dairy Congress to be held at Bern, in June, 1914, asking for the appointment of a delegate, the fee being 20 marks. Section 1 of the Congress, Hygiene, dealt with (1) Conditions for the sanitary inspection of milk by Veterinary doctors; and (2) Is the systematic breeding of cows with a view to the largest production of milk detrimental to their health and vitality.

Mr. TRIGGER: I move that that letter referring to the Congress at Bern be brought forward at the next meeting of the Council. In the meantime we may be able to find out whether any member of Council will be attending that meeting and thus be able to represent us. There is plenty of time before next June.

Mr. LAWSON: I second that.

The resolution was agreed to.

The SECRETARY read the following letter:—

“86, Grange Lodge, Edinburgh,
10th July, 1913.

To the Secretary, Royal Coll. of Veterinary Surgeons.

Dear Sir,—I thank you very much for your kind letter of the 5th inst. informing me that the Council has no power to admit ladies to the examination for the diploma. I will be much obliged now by your being good enough to let me know to whom I shall apply in order to get ladies legally admitted to a course of study and to examinations necessary to secure a diploma which will enable them to practise the profession of veterinary physicians and surgeons with similar and equally valuable privileges to those granted to successful male students of those subjects. I am not particular at present whether this course and the examinations can be taken in any of the existing Colleges, or whether a separate College must be provided for them. That can be arranged afterwards, though I should prefer the use of the existing Colleges for the ladies' classes.—Believe me, yours faithfully,

(Signed) THOMAS H. GREIG.”

The PRESIDENT: Has any gentleman any remarks to make on that letter?

Sir STEWART STOCKMAN: I propose that it be referred to the Parliamentary Committee for report. I understand there is a desire amongst some of the members to have a discussion on it, but, as I pointed out in committee, it is a sleeping dog which was put to rest some years ago by a decision of the Scottish Courts, and when it was put to rest, it was done with the acclamation of the members of the profession. I think it would be a pity to raise a public discussion at present in this Council, seeing we already have the knowledge that when it was put to rest the profession were exceedingly pleased with the decision of the Court against women being admitted. I have no objection to the thing being discussed, but I think in the first place, so that we may know where it is leading us, we should refer it to a Committee before it is discussed in public. I do not much care which Committee it is.

Mr. SHIPLEY: I second that. I think it is a matter that ought to be decided once and for all amongst ourselves, and I should be glad if before that Committee meets the Secretary will inform us what legal decisions were arrived at in the previous case.

The resolution that the letter be referred to the Parliamentary and General Purposes Committee for report, was put and carried unanimously.

FINANCE COMMITTEE.

Mr. LAWSON read the following report of a meeting of the Finance Committee held on October 10th, 1913, and moved its adoption.

Chairman. It was resolved that Mr. Lawson be appointed Chairman of this Committee during the ensuing year.

Minutes. The minutes of the previous meeting having been printed and circulated, were taken as read and confirmed.

Financial Statement.—The Treasurer submitted his financial statement for the quarter, showing a balance in hand of £401 11s. 4d., and liabilities amounting to £132 6s. 2d.

It was resolved, that the financial statement be approved, and that the Treasurer be ordered to pay the liabilities shown, together with cheques for monthly salaries, petty cash, fidelity insurance, Fellowship examination expenses, gas, electric light.

Mr. TRIGGER seconded the motion for the adoption of the report, which was carried unanimously.

REGISTRATION COMMITTEE.

The SECRETARY read the report of a meeting of the Registration Committee, held on Thursday, October 9th, 1913, which stated that it was resolved that the President be appointed Chairman of the Committee during the ensuing year. Twenty cases were considered by the Committee, some of which were ordered to stand over for further evidence, and in others it was resolved that no action be taken. In the case of Glover, a non-member using the title M.R.C.V.S., the Solicitor reported that a prosecution had been instituted and a conviction obtained, the defendant being fined £10 and three guineas costs. The Solicitor reported that an appeal in the case of Kennard, canine surgery, was pending. In the case of Leighton, the Solicitor submitted correspondence he had had with the Local Government Board for Scotland, and it was resolved:

(a) That the Local Government Board for Scotland be asked to withdraw the use of the title "Veterinary" so far as relates to the appointment of Dr. Leighton.

(b) That the letter conveying the above request be first submitted for approval to a Sub-Committee consisting of the President, Sir John M'Fadyean, and Mr. Mulvey.

In another case it was resolved that the matter be referred to the Solicitor for investigation, with power to prosecute if practicable. In a case of advertising, it was reported that a disclaimer had been received, but it was resolved that the Secretary be instructed to obtain an undertaking.

Correspondence. (a) A letter was received from Mr. W. H. Edwards, submitting an explanation with regard to the issue of a circular, and undertaking that the offence should not be repeated.

(b) Other letters were submitted, and the Secretary was instructed as to the replies to be sent.

Restorations. Applications for restorations were received from Mr. Robert Bell and Mr. John Frederick Badger Moody, whose names had been removed from the Register of Veterinary Surgeons under Section 5, Sub-section (4) of the Act.

The applications were found to be in order, and it was resolved that the names of Robert Bell and John Frederick Badger Moody be restored to the Register of Veterinary Surgeons.

On the motion of the President, seconded by Major-General Thomson, the report was adopted; and on the motion of Mr. Mulvey, seconded by Major-General

Thomson, authority was given for the seal of the College to be affixed to the order for prosecution mentioned in the report.

EXAMINATION COMMITTEE.

Mr. MULVEY read the following report of a meeting of the Examination Committee, held on October 9th, 1913:—

Chairman. It was resolved that Mr. W. J. Mulvey be appointed Chairman of this Committee during the ensuing year.

Minutes. The minutes of the previous meeting having been printed and circulated, were taken as read and confirmed.

Reports on July Examinations. The reports by the Delegates, the Chairmen of the Boards of Examiners, and Local Secretaries were read and considered.

It was reported that candidate No. 1 in Class C at Liverpool had been dismissed from the written examination for copying.

It was resolved:

(a) That the reports on the July examinations be approved.

(b) That the dismissed candidate be permitted to attend the next examination on the same conditions as a rejected student.

Educational Certificates. Educational certificates numbered 1354 to 1371 were submitted and approved.

Jubilee Memorial and Bursary Prize. The following report by Mr. J. T. Edwards, the holder of the Jubilee Memorial and Bursary Prize, was received and ordered to be entered on the minutes:

"To the President and Council of the Royal College of Veterinary Surgeons.

Gentlemen,—As requested in the conditions of holding the Jubilee Memorial Prize I have the honour of presenting herewith a report as to work done during the past year.

I commenced attendance at the Ecole Vétérinaire, Alfort, on the 15th November, 1912, and with the exception of about a fortnight's vacation at Easter-time, I have been in continuous daily attendance up to this date.

During this period my aim has been to embrace as far as possible the general work of the School—lectures and practical work. I have thus put in an appearance at the lectures of the final year for the most part, and also visited the clinique and post-mortem room of the School.

In the case of the clinique more especially, however, I found after some weeks' attendance that the system employed, though it may be very excellent from the point of view of the student, was not carried out in such a way as to be beneficial to the spectator. This is indeed as it is intended to be. I was thus led to believe that I could more profitably spend a large part of my time by doing some special work at the school, and with this end in view I asked for permission from the Director, Prof. Vallée, to work in the laboratory for infectious diseases, and was readily allowed to do so.

During the greater part of each day I have thus worked in this laboratory, and have undertaken research work under the supervision of Prof. Vallée. This work has borne out chiefly on some anaerobic bacteria, the acid-fast bacilli, and streptococci. During the whole of my stay I have been granted a gratuitous and unlimited supply of laboratory material and experimental animals. I have therefore been afforded excellent opportunities of accustoming myself in French bacteriological methods. As far as this subject is concerned the French are artistic and untiring workers.

In conclusion, I beg to be allowed to record my appreciation of the way in which I have been treated by members of the staff and by students alike. My sincerest thanks are due to Prof. Vallée, who has ungrudgingly

given me advice, in a subject in which he is so highly distinguished, at all times when he has been able to relinquish the duties of a busy directorship.—I am, gentlemen, your obedient servant,

J. T. EDWARDS."

On the motion of Mr. Mulvey, seconded by Mr. Packman the report was adopted.

Prof. METTAM: I think there is one thing that should go forth from this Council in connection with the passing of that report, and that is that we should express our great appreciation of the facilities which have been offered by the Ecole Vétérinaire to this Bursar of ours. I think it is only due to the various authorities on the Continent who permit our scholars to go to their schools that we should show our appreciation of their kindness to us, and I move accordingly that a letter be sent to Prof. Vallée, signed by the President, conveying our appreciation of his services.

Sir JOHN M'FADYEAN: I second that.

The PRESIDENT: I think that will be endorsed by every member of this Council.

The resolution was carried by acclamation.

PARLIAMENTARY COMMITTEE.

Mr. GARNETT read the following report of a meeting of the Parliamentary Committee, held on October 9th, 1913:—

Chairman.—It was resolved that Mr. F. W. Garnett be appointed Chairman of this Committee during the ensuing year.

Minutes.—The minutes of the previous meeting having been printed and circulated, were taken as read and confirmed.

Correspondence.—(a) A letter was received from the Secretary of the Central Veterinary Society conveying a resolution with regard to the Veterinary Operations (Anæsthetics) Bill. In view of the fact that the Bill is no longer before Parliament, it was resolved that the letter be allowed to lie on the table.

(b) A letter with regard to the standardisation of tuberculin and mallein was received from the Board of Agriculture, and ordered to lie on the table.

New Supplemental Charter.—A draft Supplemental Charter containing the four following articles was submitted and considered:—

1. That in future the Annual General Meetings of the Members of the said College shall take place on any of the first seven days in the month of June in every year as may be fixed by the Council of the said College, provided that the date of such meeting shall be duly advertised as directed in the Charter of One thousand eight hundred and forty-four.

2. That notwithstanding anything in the Charter of one thousand eight hundred and forty-four, the number of Vice-presidents to be elected by the members of Council from their own number at the first meeting of Council after the annual general meeting of members, shall, at and after the meeting to be held in July, 19 , be restricted to two.

3. That the members of the said College shall be eligible to sit for the special examination or examinations instituted for the Diploma of the Fellowship Degree at the age of twenty-three years, instead of twenty-five years, provided that they shall have *bona-fide* practised their profession of veterinary surgeon for not less than two years, and shall also have complied with such rules and regulations as the Council of the said College shall from time to time consider expedient.

4. That the Council of the said College shall have power to institute a Diploma in Veterinary State Medicine, and to approve teachers, appoint examiners, and make bye-laws governing the award of the same.

It was also resolved (a) that the following clause be added:—

That in future when a vacancy or vacancies shall occur in the number of members of Council from any cause except that of going out of office by rotation, there shall be elected at the next annual general meeting a sufficient number of persons to supply the places of the members retiring by rotation and such vacancy or vacancies, and the eight persons who shall receive the highest number of votes shall take the places of the members retiring by rotation, and the occasional vacancy or vacancies shall be filled by the person or persons receiving the next highest number or numbers, and every person who in consequence of an occasional vacancy shall be elected a member of the Council shall be only a substitute for the person whose place he may supply, and shall continue in office only for the same period as the person whose place he may supply would have continued if he had not vacated the office before the time at which he must have necessarily gone out of office. In case of more than one occasional vacancy at any one election the vacancies shall be filled according to the number of votes obtained, the highest number entitling the owner to the vacancy having the longest term to run. In cases of two or more persons obtaining an equal number of votes for a vacant position, the person whose name shall have been longest on the Register of Veterinary Surgeons shall be considered to have obtained the highest number of votes.

(b) That the Solicitor be instructed to revise the draft, where necessary, for submission to the Privy Council, and that the Seal of the College be affixed to the petition.

Mr. GARNETT: I now move the adoption of the report of the Parliamentary Committee, the principal matter referred to in it being the new Supplemental Charter. In accordance with a resolution of the Council, authority was given to the Committee to deal with points in this Supplemental Charter which were not of a controversial nature, and all of which had been before the Council. That has been done, and subject to your approval and to a revision of the draft by the Solicitor, we ask you to pass it to-day; and then we will have to pass a special resolution that the Seal of the College be attached to it, and it will be presented to the Privy Council in the ordinary course. I do not think there is any matter of what can be considered a controversial nature in any way dealt with in the new Supplemental Charter.

Mr. LAWSON: I second the motion.

Mr. TRIGGER: There is nothing of a controversial nature so far as I know in the report, and I am not going to raise any point of a controversial nature. But there are just one or two little matters that I want to deal with. The Solicitor will remember that in connection with our last Charter we had to depend upon the preamble for certain powers. I venture to hope that that has been remedied in the present Charter, and that any points which it is necessary to bring into the body of the Charter are sufficiently emphasised there. I have always looked upon that as being more or less of a blot on our last Charter in that respect. I do not know whether that has been considered by the Committee, and in case it has not I draw attention to the point. Then I very cordially approve of the alteration with regard to the appointment of two Vice-presidents only, but I think it is an omission not to say "of whom the retiring President shall be one," because I think the first man who should occupy the Chair in the absence of the President should be the retiring President. I think the retiring President should be one of the Vice-presidents for the ensuing year. I do not care whether you make it two, of whom the past President shall be one, or whether you make it three, of whom the retiring President shall be one. I think if you make it "two, of whom the retiring President shall be one," it

would practically bind the Council to the President for the next year instead of having two to choose from. Anyway, I think we should have the retiring President as the senior Vice-president, because I think he is the proper man to occupy the Chair during the ensuing year as the ex-President in the absence of the President. Then there is one other point that I should like to refer to, namely, that the age for the Fellowship examination should be 23, and that the member should have been two years in practice. Some of us think that is very short, but I suppose the Committee have thoroughly considered it. That is very short unless they have been Professors at the College, and then they need not have been in practice. Professors become rather cheap if you take a young man of 21 and call him a Professor. I do not know what the members think of it, but it seems to me rather young.

Dr. BRADLEY: That is taken out.

Mr. TRIGGER: Not in the draft read to-day.

Mr. GARNETT: Yes, it is taken out.

Mr. TRIGGER: I can only say that in the draft I read to-day, which the Chairman kindly lent me to read through, it was there. The only question I think that should be considered is, whether it should be three years instead of two before you allow them to go in. I do not think 24 years instead of 23 is keeping the people any too long. Anyhow, I make the suggestion for what it is worth. I think the suggestion about the Vice-presidents should be considered. I think those are all the points I want to raise; I do not want to raise any controversial points, or press anything I have said. I have simply thrown them out for the consideration of the Council. I think two years is a very short time, and I suggest that should be altered to three. Perhaps you will allow me to move a resolution afterwards if I desire to do so.

Mr. SUMNER: I should like to appeal to the Solicitor with a view to condensing the fifth, the terminal, Clause. Could not a form of words be devised that would give power to this Council to allocate the results of the voting as they may seem fit, without that long recital of the various points?

Mr. THATCHER (Solicitor): I am afraid not. I tried to make it as short as I could to sufficiently express the intention.

Mr. SUMNER: My point is that the Council may have power to allocate the seats on the voting as it saw fit from time to time. We are asking for new powers under the new Diploma without giving all the regulations appertaining to the Diploma.

Mr. THATCHER: Without going into the question of merits, the danger of that would be this, that it would enable the Council to say which members should come on to their body and which should not. The election of members of Council is one which, in my opinion, should be left absolutely to the members of the profession. (Hear, hear.)

Mr. GARNETT: In reply to Mr. Trigger's two points, first that the number of Vice-presidents might be increased to three from two, it was a special resolution of this Council, that the Vice-presidents be two in number. I am quite prepared to accept an amendment, and to provide in the Clause that one of such Vice-presidents shall be the retiring President. I do not see any harm in that, in fact I think it would work very well.

The PRESIDENT: Supposing the President were to die during the year?

Mr. GARNETT: Then the previous President in the year before would automatically become one of the Vice-presidents. I think as it stands now it will work out very well in practice.

Mr. PRICE: What would be the objection to having three Vice-presidents?

Mr. GARNETT: Because we have already passed a resolution at this Council that the number of Vice-Presidents should be reduced to two, and according to our bye-laws we cannot rescind that motion within twelve months.

Mr. TRIGGER: Then I shall have to move that it read:—"Two, of whom the retiring President shall be one."

Mr. GARNETT: The other point raised was with regard to the number of years that should elapse after a man is qualified before he takes his Fellowship. That also was a resolution that was passed by this Council, and we had to carry out the directions of the Council, and we cannot rescind that again for twelve months. With regard to the point raised by Mr. Sumner, it was felt by the Committee, in fact it was a unanimous vote I think in the end, that when there were a larger number than the ordinary eight vacancies, owing to death vacancies or retirements of other people, the lowest number of the successful candidates should succeed to the vacancies caused not in the ordinary nature of events, that is, to the exceptional vacancies. An illustration of that was very forcibly brought before us this year, when there were nine vacancies, eight retiring by rotation, and one death vacancy. Mr. Shipley, who had obtained the largest number of votes, was by ballot selected to fill the death vacancy, so that he has to submit himself again for election next year, although he obtained the largest number of votes. Perhaps the man at the bottom may have got in only by an odd vote or two, and the Committee felt it was very desirable that provision should be made in that respect, and it was left to the Solicitor to draw up the Clause that I have read to you to provide for it.

Mr. TRIGGER: I understand we cannot alter the age without altering the bye-law?

Mr. MULVEY: I do not quite agree with what has been said with regard to the resolution of the Council at its last meeting taking the form of a bye-law. In my opinion it is not a bye-law. It was simply an instruction to the Committee on what lines they were to draw up this proposed Charter in order to submit it to this Council. I say in my opinion it does not take the form of a bye-law. That is to say, there is no reason at all why an alteration should not be made.

Sir JOHN McFADYEAN: Now?

Mr. MULVEY: Yes, that is my view.

The PRESIDENT: You mean instead of delaying it for twelve months?

Mr. MULVEY: Yes.

Mr. SHIPLEY: Do I understand that by passing this report we authorise the Seal of the College to be affixed to this new Charter before we see it? because I am not satisfied about it. As far as I am concerned I am satisfied that the Committee have done the best they can, and I quite appreciate the work the Chairman has done in connection with it, but I certainly should not be prepared to vote for a supplementary charter to be sent to anybody until I have seen and read what the contents are. I should therefore like to propose that a draft of the new Charter be printed and circulated among the whole of the members of the Council for their consideration.

Mr. GARNETT: In reply to Mr. Shipley, I might say that the whole of the resolutions embodied in the draft Charter that is now submitted to you have been discussed by the Council. They were direct instructions that were passed by this Council after full discussion, and simply sent on to the Committee to formulate into legal phraseology, with the single exception of the one which Mr. Thatcher has drafted making provision for the retiring members of the Council. That is the only one that has not been fully discussed and passed by the Council. It was an instruction to the Committee to

draft this Charter on certain definite lines, and passed by the Council with that exception.

Mr. SHIPLEY: If I may say so, in reply, I really think the members of Council should be put in possession of a printed copy of this Charter before we let it go. Mr. Garnett knows exactly what goes on at the Parliamentary Committee, but I am not a member of the Parliamentary Committee. I have seen a certain amount of bungle made in the Bills before, and I think we ought to have it before us before we let it go.

Mr. MULVEY: I should like to appeal to Mr. Thatcher to explain to us the exact position.

Mr. THATCHER: The exact procedure is this. A petition has to be prepared setting out what is required, and setting out the reasons why such things are required. That is presented to the Privy Council. Accompanying that is a draft of the Charter that it is proposed the Privy Council should grant. The Privy Council then enquire if there is any opposition on the part of any person to the Charter being granted in those terms, or at all. Everybody has the opportunity then of going before the Privy Council and stating their reasons generally in writing against the Charter, or against certain points in the Charter. That is considered by the Committee of the Privy Council to whom such things are specially remitted. If they consider necessary they can call evidence, and hear counsel, and so on before coming to a decision. When they come to their decision, the draft Charter itself is then for the first time considered, because up to this period all that has been considered is the petition. The Charter is then sent to the draughtsman particularly appointed for the purpose, and if he sees anything in the draft that he objects to he says so, and then the legal representatives of the petitioners have to appear either to justify or to accept what he says. So that you see, Mr. Shipley, it is quite open to anybody to object to this Charter until the actual moment His Majesty's Seal is affixed to it.

Mr. SHIPLEY: If I may be allowed to say one thing more, my object in raising the point is that there should be no objection offered to the new Charter, and that we should not have to go to oppose the Charter, or that anyone should have an opportunity of opposing it. Let us consider it ourselves and know what we are petitioning for before we let it go. (Hear, hear). That is the only thing I ask for.

Mr. MULVEY: The question I asked was this: Has this Council power at this meeting to alter any clause or interpolate a fresh clause before this is sent forward?

Mr. THATCHER: Certainly.

Mr. MULVEY: That is all I wanted to know.

Mr. GARNETT: Most certainly, so long as they are not directly opposed to resolutions which have already been passed by this Council. There are certain principles embodied in this Charter which the Council has already approved of by resolution, and they cannot be rescinded within twelve months. But I have no objection whatever to this being postponed, although there are very strong reasons of urgency. Each clause, with one exception, has been fully discussed by the Council.

Mr. SUMNER: I think no harm could be done by giving every member of the Council a copy of it, and deferring our consideration of this supplemental Charter until the next meeting.

The PRESIDENT: Do you mean to postpone the whole thing until the next meeting?

Mr. SUMNER: Yes, to postpone sending the petition until every member of Council has had time to digest the new clauses in it. Practically I second what Mr. Shipley has moved.

Sir JOHN M'FADYEAN: Might we ask the Secretary or the Solicitor to read out the resolutions?

The PRESIDENT: Which one is it you refer to?

Sir JOHN M'FADYEAN: The Bye-law which says that any motion which has been before the Council and has been voted upon shall not be brought up again in less than twelve months.

The SECRETARY: It is No. 11a. "No motion which has been rejected by the Council shall be again moved at a subsequent meeting held within a shorter period than twelve months except with the consent of the majority of the members present."

Sir JOHN M'FADYEAN: I am sorry I could not agree with what Mr. Garnett said about that, because there has been no formal motion about this, and there has been nothing rejected. I take it that the Council can do just as it pleases about the draft Charter. (Hear, hear). They can pass it as it stands, or amend it now, or refer it back, or postpone it for the consideration of the next meeting.

Mr. TRIGGER: You gave me permission, sir, to move a resolution later on about the Vice-presidents, but in view of what has taken place I confess I should like to have a copy of the Charter, and read it through carefully at home, and read the supplemental Charter with it. I should like to see them side by side, and think over whether other important matters may not be brought in. The last Charter was hurried through for two purposes, and we got something that we did not want, and we left out other things that we did want. I therefore move that the matter be adjourned to the January meeting, and that each member of the Council who has not already had a copy of the supplemental Charter be furnished with one. I suppose the members of the Parliamentary Committee have had their copies.

The PRESIDENT: Could you put it in this form, that the report be adopted, with the exception that this matter be postponed till the next quarterly meeting?

Mr. GARNETT: That the discussion on the Charter be deferred for three months.

Mr. TRIGGER: Instead of adopting the report, I move that the decision be deferred for three months until the January meeting.

Mr. SHIPLEY: I made a proposition, which has been seconded by Mr. Sumner, that the question of this Charter be referred to a Committee of the whole Council.

Sir JOHN M'FADYEAN: No, no.

Mr. SUMNER: That every member of the Council should have a copy of it.

Mr. SHIPLEY: Yes, that is what I mean. There is no reason why we should not have an early meeting to consider it. I do not wish to hinder it in any way whatever.

Mr. GARNETT: If we propose that the minutes of the Parliamentary and General Purposes Committee be adopted, with the exception of that portion referring to the supplemental Charter, which shall be referred back to the next quarterly meeting, with instructions that copies of the supplemental Charter be circulated among the members of Council, that will carry out the wishes of the members.

Mr. SUMNER: Yes, that is it.

The PRESIDENT: That is the omission of Clause IV. This resolution was then put and carried unanimously.

PUBLICATION COMMITTEE.

Mr. SHARE-JONES read the following report of a meeting of the Publication Committee held on October 10th, 1913:—

Chairman.—It was resolved that Mr. J. T. Share-Jones be appointed Chairman of this Committee during the ensuing year.

Minutes.—The minutes of the previous meeting having been read, printed, and circulated, were taken as read and confirmed.

Publication of Register.—It was resolved—(a) That, subject to the approval of the Council to the new regulations for the Fellowship Degree and for the Diploma in Veterinary State Medicine, proposed to come into operation on the date of the obtaining of the new Charter, these regulations be published in the Register for 1914.

(b) Appendix VII. Highland and Agricultural Society's Certificate holders. That the Registrar be instructed to communicate with Principal McCall to obtain his assistance in the revision of the list of holders of the Highland Society's Certificate.

(c) That the Registrar be ordered to arrange for the printing and publishing of 500 copies of the Register, 1914, after revision.

Prof. SHARE-JONES: I move the adoption of the report, and in doing so I should like to refer to a very interesting fact which came to light during our brief deliberations this morning, and that is, that Mr. Nettleship, who is a member of this College, has obtained the high honour of Fellowship of the Royal Society. I think since the fact came to light, it is my duty to mention it here, because honours of that kind have not been too common in our history. (Hear, hear).

Mr. PACKMAN seconded the motion, which was carried unanimously.

PRELIMINARY EXAMINATION COMMITTEE.

Mr. MULVEY read the following report of a meeting of the Preliminary Examination Committee, held on October 10th, 1913, and moved its adoption.

Preliminary Educational Examinations. (a) The Secretary reported that, as instructed at the previous meeting, he had communicated with the College of Preceptors, the Educational Institute of Scotland, and the Intermediate Education Board for Ireland, all of whom were prepared to examine veterinary candidates on the present standard until the end of the year 1914, it being understood that until that date candidates would have a choice of either the old or the new standard.

(b) The Secretary submitted a copy of Schedule I, revised in accordance with the recommendations adopted at the last meeting of Council, and which had been suspended for the required period of three months.

It was resolved to recommend, That the Schedule, as revised, be adopted, to come into force on January 1st, 1915.

Dr. BRADLEY: I second that.

Sir JOHN M'FADYEAN: This requires three months' suspension.

The SECRETARY: It has been suspended three months.

Sir JOHN M'FADYEAN: The decisions you came to at the meeting the other day cannot have been suspended yet.

The SECRETARY: No.

Sir JOHN M'FADYEAN: This is not the time to discuss it then, but at the next meeting. I want to make it clear that by adopting this report we do not dispense with the necessity of considering Mr. Mulvey's motion, which is down for the special meeting.

Mr. MULVEY: Oh no. It has nothing to do with it. That will come on at the special meeting presently.

Sir JOHN M'FADYEAN: But in the ordinary course of business, if we adopt this report then it becomes a bye-law.

Mr. MULVEY: Yes, but I am only now proposing that you should adopt this recommendation of the Committee, and that at the special meeting we will bring forward the Schedule.

Sir JOHN M'FADYEAN: Although possibly the proper place at which to raise the question of the advisability of raising the standard of the Preliminary Educational Examinations would be at the special meeting, I feel impelled to raise it now, and to point out to the Council that the raising of the standard of the preliminary

educational examinations is a step demanding the most serious consideration before it is undertaken. Nobody can be more desirous than I myself to see the general education of veterinary students improved, but I think our first duty is to see that we do not do anything that deprives the country of an adequate number of veterinary surgeons. Everybody must admit that it would be possible to raise the standard of the preliminary examination too high. I think everybody will admit that it would, for example, be too high if it cut down the number of those obtaining the diploma annually to ten. I suppose there will be no argument about that, because in the course of a few years it is quite obvious there would not be a sufficient number of veterinary surgeons in the country to meet the requirements of stock-owners and owners of animals. I suppose that those who are prepared to recommend that at the end of 1914 we raise the standard of the preliminary examination to a considerable extent have thought the matter out, and calculated that this will not lead to a very serious reduction in the number of veterinary students, and in the number of those entering the profession. I have thought a great deal about it myself, and I am not at all satisfied that any serious increase in the difficulty of passing the preliminary examination would not have a very important effect in still further reducing the number of those aspiring to enter the profession. It might even happen that we should, after the experience of a year or two, have to rescind this resolution and go back to the lower standard. Now that would be a most undesirable thing. It would be far better, I think, that we should proceed very cautiously. In urging caution I am not thinking about the interests of this profession, and I can honestly affirm I am not thinking about the interests of the schools, although I may point out that if there is any further great reduction in the number of students this body may be landed in bankruptcy, and the schools will certainly be very seriously handicapped further than they are at present, and proper veterinary education would thereby be interfered with. But the point I desire to press is that the Council should consider whether, if there is any likelihood of raising the standard of the preliminary examination two years hence, and that would still further reduce the number of those entering the profession, it is desirable to move in that direction.

The PRESIDENT: I will just ask Mr. Bullock to read the resolution which was adopted at the last meeting of Council.

The SECRETARY: At the last meeting of Council the report of the Preliminary Examination Committee was passed, in which the following two recommendations were included:—“(a) That candidates presenting themselves for the first professional examination in and after December, 1915, be required to produce a certificate of having passed one of the preliminary educational examinations in accordance with the revised regulations of the General Medical Council, provided that, in the case of candidates whose educational certificates are dated earlier than November, 1914, the present regulations shall apply. (b) That Schedule I. be revised in accordance with the above recommendation.”

Sir JOHN M'FADYEAN: Mr. Mulvey suggests that under the new regulations certain examinations in which at present all the subjects must be passed at once, may be passed at two or more times. But is that really a suggestion that we are not going to raise the standard of the preliminary examination? None of us can delude ourselves about that. Of course the effect of the proposal would be very materially to raise the standard of the examinations. During recent years we all know that at least 70 per cent. of the candidates have come in under the educational certificate of the Educational Institute of Scotland. I believe that body is not under any misapprehension as to the effect of the new regula-

tions of the General Medical Council. I venture to say that it will increase the rejections of candidates as compared with the last few years by 50 per cent. The Council may, in its wisdom, decide that the standard of the preliminary examination must be raised, but I beg of them not to come to that decision under the delusion—because I am sure it would be a delusion—that the number of candidates is not going to be reduced in the future by raising the standard.

Mr. MULVEY: I want to make one remark, sir. Sir John M'Fadyean was present at the last meeting of Council, at which this resolution was passed. Personally, I feel it is a great pity that he did not take exception to it, and state that if the examination was to be taken in two parts he was willing it should go on. I think it is a great pity that the time of the Committee should be spent in going through this, and then Sir John oppose it now.

Mr. SHARE-JONES: I should like to ask, before we enter into this debate, in which there are obviously two sides, whether it is in order that it should be brought up now?

Mr. THATCHER: The only point on which order could arise would be on the last paragraph of the report.

Sir JOHN M'FADYEAN: That is the point on which I supposed I was in order.

Mr. THATCHER: Without going into the question of order, would it not be more convenient to discuss it at the special meeting when the matter is directly in point?

Sir JOHN M'FADYEAN: That is the preliminary point I raised—whether if we adopted this report it would not still further commit the Council to this step.

Mr. THATCHER: I have no doubt the Chairman of the Committee would be quite willing to delete this for the present, and have the whole question discussed at the special meeting, which would be far more convenient.

Sir JOHN M'FADYEAN: That would meet my view.

Mr. MULVEY: I have not the slightest objection to that course being pursued, if it is considered desirable.

Mr. TRIGGER: I think that would be the best course to adopt, because there are many of us that are not members of the Examination Committee. I have never been a member of it. I should like to see it referred back to a Committee of the whole Council, where we could all take part in the discussion at the special meeting. I move that it be referred back to the special meeting of the whole Council, unless Mr. Mulvey delete that last paragraph.

Major-General THOMSON: I confess I do not understand what Mr. Trigger is driving at. He suggests that it should be referred back to a special meeting of the whole Council. I see no reason why it cannot be referred back to the special meeting of Council about to sit, in which case we shall deal with it there.

Mr. TRIGGER: That is what I mean.

Mr. MULVEY: To meet with the wishes of certain speakers, I move that permission be given to leave out the words following after "period of three months," namely, "It was resolved to recommend, that the Schedule, as revised, be adopted, to come into force on January 1st, 1915." I move to leave out those words.

Sir JOHN M'FADYEAN: That was the only paragraph in the report which appeared to me to justify me in raising the point at this stage.

Prof. SHARE-JONES: May I ask whether that was not passed at our last Council meeting?

Mr. MULVEY: Yes, it was.

Sir JOHN M'FADYEAN: May I be allowed to point out it was not. I have before me printed in the minutes what was resolved at the last meeting—"It was resolved to recommend (a) That candidates presenting themselves for the first professional examination in and after Dec., 1915."

Mr. MULVEY: That is right.

Sir JOHN M'FADYEAN: The revised bye-law as recommended by the Committee now is to come into force in January, 1915.

The SECRETARY: That is the same date really.

Mr. SUMNER: They would be eligible for the next examination in 1915.

It was resolved that the minutes should be adopted, subject to the deletion of the last paragraph, namely, "It was resolved to recommend that the schedule, as revised, be adopted, to come into force on January 1st, 1915."

LIBRARY AND MUSEUM COMMITTEE.

Dr. BRADLEY read the following report of a meeting of the Library and Museum Committee, held on Oct. 10th, 1913:

Chairman. It was resolved that Dr. O. C. Bradley be appointed Chairman of this Committee during the ensuing year.

Minutes. The minutes of the previous meeting having been printed and circulated, were taken as read and confirmed.

Presentations and Additions. The Secretary reported that since the date of the previous quarterly meeting of Council, the following presentations had been made to the Library:—

And it was resolved, that a vote of thanks be conveyed to the respective donors:—

How to Diagnose Smallpox, by W. McG. Wanklyn, B.A., M.R.C.S., L.R.C.P., D.P.H.; On a case of Blindness from Optic Neuritis without Intracranial Disease in a pedigree Bull, by E. Nettleship, F.R.S., M.R.C.V.S., and A. C. Hudson; Calendar of the Royal College of Surgeons of England, 1913; Calendar of the Edinburgh University, 1913-1914; Annual Report of Proceedings under the Diseases of Animals Acts, the Markets and Fairs (Weighing of Cattle) Acts, 1912; Annual Reports of the Department of Agriculture, Nyasaland Protectorate, for the years 1912 and 1913; Report on the working of the Veterinary Department of the Rangoon Municipality, 1912-13; Report on Higher Education in the State of New York for the school year ending July 31st, 1912.

U.S. Department of Agriculture: Twenty-Eighth Annual Report of the Bureau of Animal Industry, 1911; Important Poultry Diseases, by D. E. Salmon, D.V.M.; Regulations governing the preparation, sale, barter, exchange, shipment, and importation of Viruses, Serums, Toxins, and analogous products intended for use in the treatment of Domestic Animals.

New South Wales Department of Agriculture: Ten Years' Egg-Laying Tests at Hawesbury Agricultural College and Experiment Farm, Richmond, N.S.W. Results Analysed and Reviewed by A. A. Dunncliff, Junior.

Memoirs of the Department of Agriculture in India, Vol. II., No. 1.; *The Bloodstock Breeder's Review*, Oct., 1913; *The Rhodesian Agricultural Journal*, June and August, 1913; Bulletin of the Yellow Fever Bureau, April, 1913; *The Journal of the Board of Agriculture* (with supplements), July, August, and September, 1913; Catalogue of Periodical and Serial Publications filed in the Library of the Board of Agriculture; Leaflets of the Board of Agriculture and Fisheries; Orders of the Board of Agriculture and Fisheries; *Revue de Pathologie Comparée*, June and July, 1913; *The Journal of Comparative Pathology and Therapeutics*, June, 1913; *The Veterinary Journal*, *The Veterinary News*, and *The Veterinary Record* for the quarter.

Additions to the Library. Tropical Diseases Bulletin, July, August, and September, 1913; Tropical Veterinary Bulletin, August, 1913; Reports to the Local Government Board on Bacterial Food Poisoning and Food Infections, by Dr. W. G. Savage.

Purchases. The Secretary reported that the following books had been purchased for the Library:—Tropical Diseases Bulletin, July, August, and September, 1913; Tropical Veterinary Bulletin, August, 1913; Report to the Local Government Board on Bacterial Food Poisoning and Food Infections, by Dr. W. G. Savage.

On the motion of the Chairman, the Secretary was instructed to apply to the Carnegie Foundation for free copies of the following two volumes:—Medical Education in the United States; Medical Education in Europe.

The Secretary was also instructed to write to the Editors of the *British Medical Journal* and the *Lancet* to request that the Library of the Royal College of Veterinary Surgeons should be placed on the free list.

Museum. The question of cleaning and arranging of specimens in the Museum, in view of the approaching International Veterinary Congress, was considered.

And it was resolved to recommend that arrangements be made for the specimens in the Museum to be cleaned and put in order at a cost not to exceed twenty guineas.

Mr. BRADLEY: I move the adoption of the Report.

Mr. SLOCOCK: I second it.

Mr. MULVEY: Before you put that resolution, I would like to ask whether it is seriously contended that our collection in the Museum is worth the expenditure, and whether it would not be better, in view of the forthcoming Congress, that we lock the door and do not let anyone know we have a Museum. (Hear, hear).

Sir JOHN McFADYEAN: And lose the key! (Laughter and hear, hear).

Mr. SHARE-JONES: That is a very good suggestion.

Mr. LAWSON: I second that.

The CHAIRMAN: It is moved and seconded that the report of the Library and Museum Committee be adopted, with the exception that the door of the Museum be locked. (Laughter).

Mr. GARNETT: I propose as an amendment that the minutes be adopted, subject to that portion referring to the expenditure on the Museum being referred back to the committee for further consideration. (Hear, hear).

Mr. LAWSON: I second that.

The amendment was put, and carried unanimously.

HONORARY ASSOCIATES COMMITTEE.

Professor METTAM read the following report of a meeting of the Honorary Associates Committee, held on October 9th, 1913:—

Chairman. It was resolved that Prof. Mettam be appointed Chairman of this Committee during the ensuing year.

Minutes. The minutes of the previous meeting having been printed and circulated, were taken as read and confirmed.

Honorary Associates. Nominations were submitted and considered, and it was resolved, that the Secretary be instructed to circulate to the members of the Committee lists of the names suggested, in time for the next meeting in January.

On the motion of Prof. Mettam, seconded by Principal McCall, the report was adopted.

BYE-LAWS SPECIAL COMMITTEE.

Mr. GARNETT read the following report of a meeting of the Bye-laws Special Committee held on the 9th October, 1913:—

Bye-laws. The Committee reconsidered the bye-laws recommended at the previous meeting in accordance with the instructions of the Council.

And it was resolved to recommend, that the following revised bye-laws be adopted:—

53a *Exemption.* Students who have obtained a Degree in Arts, Science, or Medicine of any University in the United Kingdom, or the Diploma of Licentiate of the

Royal Colleges of Surgeons and of the Royal Colleges of Physicians, and who at the respective examinations for such Degree or Diploma, have passed in chemistry and physics, and also in biology (zoology and botany), are exempted from attendance at the first year's course of lectures and from the examination at the end of that year, provided that each student so exempted shall be examined in the whole subject of anatomy in the class B examination.

Students claiming exemption under the bye-law shall, on entering an affiliated veterinary school, submit to the Secretary of the Royal College of Veterinary Surgeons satisfactory evidence that they are entitled to such exemption.

Candidates possessing similar qualifications granted by Colonial or foreign licensing bodies, shall submit their certificates to the Examination Committee, who shall report to the Council on the eligibility of the applicant for exemption or otherwise.

Mr. GARNETT: In moving the adoption of the report, I would point out that it was specially referred back from the last Council meeting. I will read what occurred at the last Council meeting to put the members of the Council in full possession of the facts—"It was resolved to recommend the adoption of the following bye-laws, in accordance with resolution 17 of the meeting of Council, April 11th, 1913." Exception was taken to that resolution, and it was proposed by Sir John McFadyean, seconded by Mr. Wharam, and resolved—"That the report be referred back to the Committee with instructions that they shall so amend it as to give exemption to those graduates in Arts who have passed in the subjects of Biology and Chemistry." It has been before the Committee again, and they have drafted the new bye-law that I have read out to meet that instruction.

Mr. SUMNER: I second the motion.

Sir JOHN McFADYEAN: May I ask what is the reason for requiring students claiming exemption under this bye-law to give notice that they claim exemption at the time they enter an affiliated veterinary school.

Mr. GARNETT: The point was discussed by the Committee, and the majority thought it was more satisfactory that he should have definitely to settle whether he was exempt on entering the schools rather than three months previous to his going up for examination. It was generally conceded that his certificates would have been examined by the heads of the different veterinary schools, and if they were submitted at the beginning there was no more hardship on him than in doing so a few months previous to going up for examination.

Sir JOHN McFADYEAN: I should have thought it would have been just as well to bring such students into line with the ordinary students with reference to the submission of their educational certificates. They are not required to submit their educational certificates when they enter an affiliated school; they are required to submit them three months before they intend to present themselves for examination. I merely wanted to know what was the reason. It seems a quite unnecessary time.

Mr. GARNETT: It was discussed, and it was altered in that way.

The resolution for the adoption of the report of the Committee was then put and carried.

REPORT OF THE FITZWYGRAM PRIZE AWARD.

The SECRETARY: The marks obtained by the candidates eligible for the FitzWygram Prize have been submitted to the College auditors, and they certify as follows, that the first prize of £39 18s. 11d., should go to Mr. W. H. Dawes, Royal Veterinary College, 839 marks; and the second prize of £23 19s. 5d. to Mr. J. A. Ward, Royal Veterinary College, with 777 marks.

On the motion of Principal McCall, seconded by Mr. Lawson, the report was adopted, and the prizes awarded accordingly.

APPOINTMENT OF SECRETARIES OF BOARD OF EXAMINERS IN SCOTLAND, LIVERPOOL, AND DUBLIN.

The SECRETARY: As instructed, an advertisement was inserted asking for applications for the appointment of local Secretaries at the usual fees, and I have received applications from the present local Secretaries only, namely, Mr. Archibald Baird, Scotland; Mr. Blackhurst, Liverpool; and Mr. Finlay Kerr, Dublin.

Prof. METTAM: I move that the three local secretaries be re-elected.

Principal McCALL: I second that.

The resolution was carried unanimously.

NOTICE OF MOTION.

Mr. GARNETT: I beg to give notice that I will move at the next quarterly meeting an alteration of bye-law 53a which has just been passed by the Council. It will be suspended now for three months.

This concluded the business of the quarterly meeting of Council.

SPECIAL MEETING OF COUNCIL.

A special meeting of Council was held at the conclusion of the quarterly meeting, Mr. J. H. Carter, President, occupied the chair, and the same members were present as at the quarterly meeting.

The minutes of the last special meeting, which had been printed and circulated, were taken as read and confirmed.

MOTION BY MR. MULVEY.

Mr. MULVEY: I move in accordance with the motion of which I have given notice, "That the revised second Schedule, as amended by the Examination Syllabus Committee, be adopted." A copy has been supplied to each member of the Council.

Maj.-General THOMSON: I second that.

The resolution was carried unanimously.

MOTION BY PROF. METTAM.

Prof. METTAM: I beg to move, in accordance with the notice of motion I gave at the last meeting, "That the revised regulations for the Fellowship Diploma, as approved at the previous meeting, be adopted." These revised regulations were considered over a long period of time by a Committee which you appointed, and the regulations which they suggest were a unanimous finding. I move their adoption.

Principal McCALL: I second that.

Mr. TRIGGER: If this motion is going to be carried, what is the use of going into the question of the new Charter?

Prof. METTAM: These regulations cannot come into force unless the new Charter is obtained.

Mr. TRIGGER: All I want to be sure of is that it does not close the discussion on the Charter.

The PRESIDENT? It is subject of course to the Charter being granted.

The resolution was put and carried unanimously.

MOTION BY PROF. METTAM.

Prof. METTAM: In accordance with the motion of which I have given notice, and subject of course to the granting of the new Charter, I propose—"That the regulations for a new Diploma in Veterinary State Medicine, as approved at the previous meeting, be adopted." They will come into force at the time of the new Charter. The question of the granting of another Diploma than that of the Fellowship has been for some time before the profession and the Council, and the regulations as printed and circulated are the findings of your Committee. I move their adoption,

Maj.-General THOMSON: I second that.
The resolution was carried unanimously.

MOTION BY MR. MULVEY.

The following resolution stood on the agenda in the name of Mr. Mulvey—"Preliminary Examinations: That Schedule 1, as revised in accordance with the recommendations of the Preliminary Examination Committee, be adopted."

Mr. MULVEY: I am going to ask the leave of the Council to withdraw this proposal in reference to the Preliminary Examinations.

Mr. TRIGGER: I move that Mr. Mulvey be allowed to withdraw.

The resolution, granting Mr. Mulvey permission to withdraw, was seconded, and carried unanimously.

The PRESIDENT: That is the completion of the business to-day.

On the motion of Dr. McI. McCall, seconded by Mr. Packman, a hearty vote of thanks was accorded to the President for his conduct in the chair, which the President briefly acknowledged, and the meeting terminated.

The Royal College of Veterinary Surgeons v. Kennard.

This was heard in the Divisional Court of the High Court of Justice on Tuesday, 14th October, the Court consisting of Mr. Justice Ridley, Mr. Justice Scrutton, and Mr. Justice Bailhache.

Mr. Morton Smith (instructed by Messrs. George Thatcher and Son, solicitors to the Royal College of Veterinary Surgeons), appeared as counsel in support of the appellants, and Mr. Ralph Thomas appeared as counsel for the respondent.

Mr. Morton Smith said the case for the decision of the Court had been stated by four Justices of the Peace of the County Glamorgan, usually sitting for the Division of Kibbor. At the Court of Summary Jurisdiction, sitting at Llandaff, an information was preferred by the R.C.V.S. against the respondent for that he "not being on the Register of Veterinary Surgeons, and not holding at the time of the passing of the Veterinary Surgeons Act, 1881, the veterinary certificate of the Highland and Agricultural Society of Scotland, did, on the 13th December, 1912, at Horborne, Evansfield Road, in the parish of Llandaff, unlawfully take and use an addition and description, to wit, "Canine Surgery," thus stating that he was specially qualified to practise a branch of veterinary surgery contrary to Section 17 of the aforesaid Statute." The case was heard on the 10th February, 1913, when the Court dismissed the information and ordered the appellants to pay the sum of five guineas for costs. In compliance with an application from the appellants the Justices stated a case, from which it appeared that the respondent caused, or permitted to be exhibited over the entrance door to his premises a red glass lamp, on which were inscribed the following letters and words: "A. E. Kennard, Canine Surgery," and on the wall of the premises a brass plate bearing the inscription "Canine Surgery, A. E. Kennard." On the part of the appellants it was contended that the words "canine surgery" standing alone must imply either that a person duly qualified within the meaning of the said Act, or specially qualified to practise veterinary surgery would be found within the "surgery," or that coupled with the name of the respondent the words could only mean that the respondent was such a person. For the respondent it was contended that a fair and only reasonable construction of the words was that surgical treatment could be rendered on the premises by a per-

son therein, and that there was no statement as to any qualification at all, or description of the respondent as a specially qualified person. The attention of the Magistrates was particularly called on behalf of the respondent to the difference in the wording of Section 16 and 17 of the said Act, and to the omission from Section 17 (under which the information was expressly laid) of the words "or implying," which appear in the former section, and it was also contended that the description must be a personal one and not one applicable to a place. The attention of the Magistrates was called by the parties to the following cases: Royal College of Veterinary Surgeons *v.* Robinson, and Royal College of Veterinary Surgeons *v.* Collinson. The Magistrates also referred themselves to Attorney-General *v.* Churchill's Veterinary Sanatorium Limited, and the Royal College of Veterinary Surgeons *v.* Groves. Also to a case decided on the very similarly worded Section 3 of the Dentists Act, 1878, (which section, however, contains the word "implying," *Bellerby v. Heyworth*, the latter case having particular bearing on the personal application of the description. The Magistrates distinguished Robinson's case on the ground that in the descriptive words there complained of, namely, "J. Robinson, Veterinary Forge," the word "veterinary" is one of the particular words used in the said Act, and is also primarily and in its ordinary sense descriptive of a person and not of a place; and Collinson's case, and Churchill's case were decided on the ground that in each of these cases the descriptive words were wholly or partially personal, and that the word "specialist" appeared in such descriptive words in each case.

After considerable argument on behalf of both the appellants and the respondent, the Court delivered the following judgment:

JUDGMENT.

MR. JUSTICE RIDLEY: In this case the point raised is no doubt one of a difficult nature, in this sense, that the decisions run rather fine, and that it is difficult, perhaps, to reconcile all those that have been given upon the meaning of the Veterinary Surgeons Act, Sections 16 and 17, or, more strictly speaking Section 17, and the Dentists' Act. The magistrates in this particular case, after having considered the cases which were quoted before them, came to the conclusion that the words did not come within the provisions of the Section. Those words were as stated in the case: "A. E. Kennard, Canine Surgery" on a red glass lamp, and also upon the wall of the premises a brass plate bearing the inscription, "Canine Surgery, A. E. Kennard."

That being the state of things, it was contended that under Section 17 of the Veterinary Surgeons Act he had done a thing which came within the provisions of that Section and made himself liable to a fine not exceeding £20. The words of that Section so far as they are material are these: "If any person other than a person who is on the Register of Veterinary Surgeons takes or uses the title of veterinary surgeon or veterinary practitioner, or any name, title, addition or description, stating that he is a veterinary surgeon or a practitioner of veterinary surgery or of any branch thereof, or is specially qualified to practise the same, he shall be liable to a fine not exceeding twenty pounds."

The question for our decision is not without authority. Perhaps the first case that should be referred to is the Royal College of Veterinary Surgeons *v.* Robinson, in 1892, 1 K.B., where it was held that "Veterinary Forge" came within the Act of Parliament; that "Veterinary Forge" meant this—that the person who used the words was claiming for himself that he was a practitioner of veterinary surgery. That was in 1892.

In 1908 the case of the Royal College of Veterinary Surgeons *v.* Collinson came up for decision in the Divisional Court, and it was held that the words "Canine

Specialist, Dogs and Cats treated for all diseases," also came within this Section of the Act of Parliament. I was a member of that Court; the Lord Chief Justice and my brother Darling were the other two members. We, the Puisne judges, agreed with some hesitation with the judgment of the Lord Chief Justice, who had a decided opinion that the words "Canine Specialist, Dogs and Cats treated for all diseases" did claim, by the person who used them, that he was specially qualified to practise the treatment of the diseases of dogs, and therefore he came within the words in the Act of Parliament, and was liable to the penalty. We, on the other hand, had some doubts on the matter, but we agreed with the judgment of the Lord Chief Justice, and said that the words must be taken to imply that there was that skill, and that therefore it was proper to say the words were within the scope of the Act of Parliament.

If the case stood without any more recent decisions than that, what would be the position of the Court to-day? There are no such words here as "Canine Specialist"; there are the words which I have mentioned, "Canine Surgery, A. E. Kennard." If a man uses those words, does he do that which the Lord Chief Justice relied upon in giving his decision, and which we followed? Does he indicate that he is specially qualified to practise the art or the skill of a veterinary surgeon in treating the diseases of dogs? We should have had to argue that point, and to determine whether or no this case was distinguishable from that because the word was "Surgery" and not "Surgeon"; in other words, instead of being "Canine Specialist" and saying that the person who was practising there was a specialist in the diseases of dogs, the place itself or the place in which dogs are treated. I think it would have been a very arguable point, and I am not quite sure that I would not on my own view have thought that there was a distinction. The Act of Parliament says in this way—it is the person at whom it is directed. It says, "If any person takes or uses the title of veterinary surgeon or any name, title, addition, or description claiming that he is a veterinary surgeon," and we have to deal with the penalty clause; is it right to say "Yes," if it is his own personal skill that he is claiming to possess,—"he is within the Act of Parliament"—but to say that the place is used for a canine surgery is not? I do not know. I rather think I should have taken that view. It seems to me that the case of *Bellerby v. Heyworth* is very important upon this point. I think we have here the authority of the Court of Appeal, and particularly of Lord Justice Buckley, in saying that that is a good and substantial distinction. The judgment of Lord Justice Buckley *v.* Heyworth, 1909, 2 Chancery Division, reported at page 23, and the judgment at pages 30 to 33, rests a good deal upon the case of *Elmslie v. Paterson*, a Scotch case reported in 24 *Rettie*, and, whilst approving of that judgment, reasons out the distinctions I have just been suggesting. I do not think I need read much of that judgment, but it is the fact that it does rest upon the distinction which I have been mentioning. He says: "In reading those words it is to be observed that they are confined to forbidding descriptions of the person as distinguished from descriptions of the Acts to be done by the person. . . ." "I think that under this Act of Parliament any man may say that he does dental acts, but he must not, unless he is a qualified person, say he does them as a dentist;" and when we look at the next case of *Elmslie v. Paterson* we find that the words "American dentistry, Dental Office," were held not to be within the Dentists' Act. I am not able now to see the difference between this case and *Elmslie v. Paterson* in respect of this matter. There may be one or two words difference between the Dental Act and the Veterinary Surgeons Act, and indeed there are, as has been pointed out by Mr. Morton Smith, but for this pur-

pose I am not able to distinguish them. If "American Dentistry" and "Dental Office" do not mean that the person was taking upon himself the name, title, or addition, or that he had a special qualification, I do not quite see how "Canine Surgery" can. "Canine Surgery" is a description of the place and not of the man. A man is forbidden to call himself certain things. He must not call himself a dentist, but it does not follow that he is not to put up that he has got a surgery. People may say—and I have no doubt they will say—"This is rather a fine distinction." I think it is a fine distinction, but it has the authority as I make out, of the Court of Appeal in that case, and it would be as it seems to me rather unfortunate if we were to take upon ourselves to-day to say that we did not agree with it. It remains therefore according to that decision of *Bellerby v. Heyworth* that there is a distinction to be drawn here between the case before us and that of the Royal College of Veterinary Surgeons *v. Collinson*. In the *Collinson* case, the man said he was a canine specialist. In this case the man has not said that he is a canine specialist. What he has said is equivalent to what was said in the Scotch case, "American dentistry" and "Dental Office" in that he has merely put up "Canine Surgery, A. E. Kennard." For this reason, therefore, though with some hesitation, owing to the nicety of the decisions, I think the magistrates were right. There is this further also to be said, and it is possible that this also has a good deal of bearing upon the subject, that the decision in *Bellerby v. Heyworth* to this effect, that the words "Specially qualified to practise the same" in Section 3 of the Dentists' Act, being applied to Section 17 of the Veterinary Surgeons' Act, come to this, that the description against which the Act is directed means something specially descriptive of the fact that he claims to be a veterinary surgeon, and does not apply to skill. That would somewhat still further narrow the effect of Section 17, because it would from that decision follow that the words which are relied upon as being a breach of the Act must have a special relation to the qualification of the person who uses them as a member of the Society in question, and not as to the particular skill which he may happen to possess. That, however, is not the reason upon which I prefer to rest my decision in this case. For these reasons I think the magistrates were right in their decision.

MR. JUSTICE SCRUTTON: A. E. Kennard put on a red lamp over his door the words "A. E. Kennard, Canine Surgery." Thereupon the Royal College of Veterinary Surgeons summoned him for "Taking or using the title of veterinary surgeon or any name, title, addition or description stating that he is a veterinary surgeon or a practitioner of veterinary surgery or any branch thereof or is specially qualified to practise the same." The magistrates dismissed the information. I have, after some hesitation, come to the same opinion as my lord that magistrates were right. I am not certain that it is very profitable to give a judgment of any length, because the only result will be that some other ingenious unregistered practitioner will appear with a new form of words which he thinks he has extracted from some sentence in the judgment of one of the members of the Court; but as I think I have arrived at a principle satisfactory to myself as to how this Statute should be construed, and as I have gone through the authorities, I propose to state shortly the result of my consideration.

The Royal College of Veterinary Surgeons appears to have two registers, one of veterinary surgeons who have been passed on examination; one of existing practitioners who have not passed on examination but who have for five years before the passing of the Act practised veterinary surgery. Section 16 of the Act forbids any person who is not a Fellow or a Member taking any name, title, addition, or description stating or

implying that he is a Fellow or a Member. That comes into effect on the passing of the Act in 1881. Section 17 comes into operation two years later, for some reason, and prohibits people not on the register from taking or using "the title of veterinary surgeon or veterinary practitioner, or any name, title, addition or description stating that he is a veterinary surgeon or a practitioner of veterinary surgery, or of any branch thereof, or is specially qualified to practise the same." I think that must go further than Section 16. It comes into operation at a different time, and I do not think therefore, "veterinary surgeon" or "practitioner" can be limited to statements that the man is on the two existing registers. I think Mr. Morton Smith is right in saying that is dealt with by Section 16.

Then comes the question, What is the offence larger than Section 16, or different from Section 16, which a man commits by taking the name, title, addition, or description as stated, or the statement that he is specially qualified to practise? Now the first thing I notice is this: it is not an offence to perform a veterinary operation. The only result of not being on the Register of the Royal College of Veterinary Surgeons is that you cannot recover a fee for performing it, a difficulty which you get over by taking cash in advance. If you are allowed to perform an operation it would be very curious if the Statute has prevented you from saying that you are ready to do it. It would be very curious if a Statute has made it an offence to say that you will do a thing which by law you are entitled to do. I should, therefore, approach the Section with a feeling that it is improbable that a man is prohibited from saying that he is ready to perform an operation when by law he may perform such an operation but may not recover fees for it.

The authorities stand in this way, shortly. In 1892 a Divisional Court held that the words "veterinary forge" implied special qualifications to practise a branch of veterinary surgery. In 1908, in *Collinson's* case, all three Judges of the Divisional Court said they would have decided the *Robinson* case the other way; and two of them said they would have decided the *Collinson* case the other way, but for the fact that the President of the Court took the opposite view and, with hesitation, they followed him. The words in *Collinson's* case were "Canine specialist, dogs and cats treated for all diseases." There can be no doubt that that is a personal description of the man who puts it up. He is a specialist, and I can quite understand the Court saying that a man who says he is a specialist says he is specially qualified to practise. He does not merely say, "I am ready to practise," he says, "I am a specialist, I am specially qualified to practise." At that time Lord Alverstone no doubt took the view that "specially qualified" was not limited to the qualifications necessary to be registered, but in the popular sense meant qualifications of skill other than the mere fact of registration. A year afterwards, Lord Alverstone was the presiding Judge in *Barnes v. Brown* under the Dentists' Act. *Barnes* had said: "Finest artificial teeth at moderate prices. Extractions, advice free, painless extractions," and Lord Alverstone, citing in support of his view *Robinson's* case and *Collinson's* case, held that "specially qualified" was not limited to registration under the Statute, but extended to the popular meaning of "specially qualified." The next year that case came under the review of the Court of Appeal in *Bellerby v. Heyworth*, and the Court of Appeal, acting on the principle that I have endeavoured to state—that it is extremely improbable that Parliament can have intended to punish a man for saying that he will perform an operation which he has a legal right to perform—declined to follow the judgment in *Barnes v. Brown*; declined to say that a statement of special qualification was implied in a statement that a man could do work,

and the Master of the Rolls adopted the language of the Scotch case in *Elmslie v. Paterson*: "If the appellant can without any breach of the criminal law extract teeth and put in false teeth, or the like, I can see nothing in the Statute forbidding him from announcing that he does so, which is just announcing that he practises dentistry. . . . It is needless to say that I have considered what was said by the Lord Chief Justice and Bigham J. in that case with the utmost respect, but I must confess that I am unable to follow the reasoning in that case—reasoning which seems to me to go the length of saying that people must not announce that they do that which by law they are entitled to do, and that by saying that they do, and do well, that which the law entitles them to do they are necessarily infringing the Act. I can find no personal description, either expressed or implied, in what has been done here as brings the case within the section."

That being the decision of the Court of Appeal, the case was taken to the House of Lords, and the House of Lords in 1910 affirmed the decision of the Court of Appeal, over-ruled the decision in *Barnes v. Brown*, which had proceeded on the decision in *Collinson's case*, and held that the words "specially qualified to practise dentistry" in the Dentists' Act were limited to the possession of qualifications for registration.

In view of what has been pointed out by Mr. Morton Smith, and the fact that there are two Sections in the Veterinary Act and one Section in the Dentists' Act, I do not think it is necessary to say that the words 'specially qualified' in Section 17 of the Veterinary Act are limited to qualifications for registration. But in view of the reasoning of the Court of Appeal and of the

House of Lords overruling the decision in *Barnes v. Brown*, I do think that to get an offence under Section 17 you must find more than a mere statement that the man is ready to do what by law he is entitled to do. You must find some statement that he is specially personally qualified to undertake the work—not merely ready to do it, but specially personally qualified to undertake it. Now do I find such a statement in the words "Canine Surgery"? They appear to me to amount to nothing more than a statement: "Here is a place where surgical operations will be performed on dogs." A man may perform surgical operations there. It will be no offence under the Statute if he does perform a surgical operation there, but he must not say he is specially qualified to do so. Does he say he is specially qualified to do so by saying he is ready to do so? I take it the reasoning in the Court of Appeal and the House of Lords, and in the Scotch case, too, bind me to say—although I quite agree with it without being bound—that that statement is not a statement of special qualification, but is a statement of readiness to do what by law he is entitled to do. For these reasons I think the Magistrates were right in holding that in this case there was no offence shown under the Statute.

Mr. JUSTICE BAILHACHE: I am of the same opinion. I think the net result of all the cases is this, that it is no offence to say, "I have a canine surgery," though it probably remains an offence to say, "I am a canine surgeon." I therefore agree with the judgments which have already been given.

Mr. Thomas: My lord, the appeal will be dismissed with costs?

Mr. Justice Ridley: Yes.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders† (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered.*
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
Gr. BRITAIN.													
Week ended Oct. 11	9		10				3	3	16	33	1	43	593
Corresponding week in	1912		14		1	4	2	2	12	20	2	29	417
	1911		18		1	1	7	14			2	36	533
	1910	34		40			4	9			3	27	251
Total for 41 weeks, 1913	429		474				124	306	2034	4055	137	1947	25937
Corresponding period in	1912	618	699		82	639	143	262	2446	5234	182	2400	31823
	1911	685	856		18	467	163	390			315	2008	23565
	1910		1148	1364	2	15	303	891			357	1141	10311

†Counties affected, animals attacked: London 3.

Board of Agriculture and Fisheries, Oct. 14, 1913.

IRELAND. Week ended Oct. 11		...	...	...	...	...	...	Outbreaks	7	6	36
Corresponding Week in	1912	...	...	1	5	...	...	...	2	1	2
	1911	...	...	...	...	...	...	...	2	3	20
	1910	...	...	...	...	...	...	...	5	1	53
Total for 41 weeks, 1913	...	...	...	...	...	...	...	108	404	124	750
Corresponding period in	1912	...	3	31	269	...	...	55	272	191	1534
	1911	...	7	14	...	...	2	52	271	107	1832
	1910	...	5	8	...	...	1	60	371	75	1761

* These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Oct. 13, 1913

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

A New Internal Secretion Gland.

Pende (*Rif. Med.*, May 31st, 1913) describes an organic structure having the character of an internal secretion gland, and situated near and in connection with the thyroid, parathyroid, and thymus, especially with the superior parathyroid and with the superior pole of the thymic lobes. The new gland is found constantly in the human fetus from the fifth month, and persists for about a year after birth; it has also been found in the dog. It is highly vascular, and consists of some fifteen to twenty lobules of epithelial character; the individual cells are rich in lipid content, and in some cases showed evidence of karyokinesis, pointing to the fact that the gland is functionally active. The author says it can easily be differentiated from aberrant sections of thymus gland, and in cases where his new gland and outlying pieces of thymus coexisted there was no difficulty in making out which was new gland and which thymus. In size the new gland exceeds the parathyroid tissue. As his is only a preliminary communication, dealing mainly with the morphology, the author promises further details as to function, etc., when his researches are more advanced.—*B.M.J.*

Milking Cows.

With the growth of the milk trade in this country the "running dairy" (i.e., one in which cows are coming into milk all the year round) has become fairly common, and more especially in the case of farms that breed their own heifers. Still, the trade in incoming cows is far heavier in the spring than at any other period of the year, although in recent years the more profitable autumn and early winter coming-in cow has grown to a big business. Experiments and researches have been going on for many years at the Vermont and other American stations. All the experiments tended to show that autumn cows "hold out" longer than those that come on in the spring, and, as a rule, give larger yields. There is also less variation in the quality of the milk. The cow that comes on in the spring rapidly increases the fat content of her milk, beginning about five months after calving; while the autumn cow maintains fairly even quality throughout lactation, seldom improving the fat content more than $\frac{1}{2}$ to 1 per cent. The solids-not-fat content is most uniform month by month in the milk from the autumn cow, while that from the milk of spring cows lessens somewhat in the summer time.—*L. S. J.*

The "Completest Horse."

"QUIET SHOOTING HORSE.—To be SOLD, one of the completest HORSES in this kingdom, to carry any infirm timid Gentleman; he is a very handsome Gelding, six years old; he is one of the safest and best walkers in this kingdom, can trot twelve miles an hour, a delightful canter, and is, without exception, one of the safest and pleasantest little horses to ride that can possibly be; he is not apt to shy, or make a false step, and you may fire over him; perfectly sound, free from vice or blemish, and a trial granted. He is the property of a Gentleman immediately going abroad, or would not on any account be parted with. Enquire for William, the Ostler, at the General Wolfe livery-yard, Oxford Street, opposite Park Lane. This horse is worthy the attention of any heavy timid Gentleman, in want of a safe, quiet, handsome little horse; colour dark brown, not any white about him. The lowest price 37 guineas, which is a great deal less than his real value."—From *The Times* of 100 years ago.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, Oct. 14.

REGULAR FORCES. ARMY VETERINARY CORPS.

Col. A. F. Appleton is placed on the half-pay list. Dated Oct. 15.

Lieut.-Col. J. Moore, A.V.C., to be Colonel, *vice* A. F. Appleton. Dated Oct. 15.

Personal.

Mr. HUNTING's condition has not improved during the week, and a surgical operation has been decided upon.

Mr. and Miss HUNTING desire to thank many friends for sympathetic enquiries and letters, to which it has not been possible to reply individually.

MARTIN—SAMUELSON.—On the 9th Oct., at St. Mary Abbots, Kensington, Major Ernest Edmund Martin, A.V.C., son of the late T. J. Martin, of Taunton, and Alexine Aimée, youngest daughter of the late Alexander Samuelson, of Kensington.

Mr. JAMES LINDSAY, M.R.C.V.S., was unanimously appointed Veterinary Inspector for the Burgh of Dumfries by the Town Council at their last monthly meeting.

OBITUARY

JOHN THOMSON, M.R.C.V.S., Coventry.

Graduated, Glas: Dec., 1874.

We regret to have to record the death of Councillor J. Thomson, M.R.C.V.S., which occurred about mid-day on Sunday last at his residence, 2 St. Patrick's Road, Coventry, after a very brief illness, the cause of death being arterio sclerosis. He was 61 years of age, and leaves a widow, but no family.

Mr. Thomson was a native of Perthshire. He was very successful as a student, and came to Coventry about thirty years ago, and became widely known throughout Warwickshire and the Midland Counties as a skilful veterinary surgeon. He had stables in Much Park Street.

The deceased gentleman was a member of the Coventry City Council, having been first elected in July, 1904, as a representative of Cheylesmore Ward, and he had sat continuously since then. He was Vice-Chairman of the Sewage Farm Committee, on which committee his practical knowledge of horses and stock and of farming proved of the greatest value. Mr. Thomson was an earnest and conscientious worker, though he seldom spoke in public, and was greatly esteemed by his colleagues. In politics he was a staunch Conservative, and as a churchman attended St. Michael's Collegiate Church. He was a member of the Coventry Education Committee, and one of the managers of St. Michael's Schools. He was a vice-president of the Caledonian Society for Coventry and District, and had always taken an active interest in its work.—*Daily Telegraph* (Coventry).

EPHEMERAL LAMENESSES.

Sir,

I feel certain all of your readers are thankful to Mr. E. Wallis Hoare for the lucid exposition of his views on my remarks on ephemeral lamenesses. For my own part I congratulate him heartily, and with the exception of the paragraph marked "3" I do not see occasion to offer any criticism to his reply.

Mr. Hoare says he is well aware that in the early stage of navicular disease a very careful examination of the navicular bone is necessary in order to detect the lesions. In reply to this, I ask him how often does one get the

chance or deem it advisable to make a post-mortem examination in the early stage of navicular disease?

One may often get the opportunity of making a post-mortem and finding advanced lesions within a short period of the first appearance of lameness. The interpretation of these facts is that in such cases the disease must have been progressing long before the evidence of lameness. Opposite to these facts, we may witness chronic lameness with no well marked lesions.

Mr. Hoare further says he is very sceptical as to the possibility of a horse affected with navicular disease being able to go sound for any length of time, and believes that such is difficult to prove.

Notwithstanding Mr. Hoare's rather pronounced views on the question, such cases do occur, and are not difficult to prove. A post-mortem examination after following the career of an animal showing freedom from lameness for long periods is not always impossible, even if one have to wait two or three years.

In a great number of cases of foot lameness in light bred horses, without a post-mortem examination, diagnosis is merely conjecture on probabilities. In bilateral intramural sidebones—an inflammatory condition with calcification of the lower half of the lateral cartilages—in light bred horses, the characters of the lameness are identical with those of navicular disease. In the former, however, the young adult horse is generally the victim, whereas in the latter it is usually the aged adult. As they both respond to the same treatment, a differential diagnosis is not of much practical importance. This form of sidebone does not, as a rule, progress, even after neurectomy.

After all, what does it matter whether one calls navicular disease, rheumatic lameness or navicular disease. One cannot prove it one way or the other without a post-mortem examination. As to treatment, one is limited in range—fire, blister, unnerve, rest, form the therapeutics of the average veterinary surgeon. Others, wiser than most, put salt on the tail.

I was once called to see a cob that had been lame for two years, in spite of the skill and care of two eminent men in the profession now deceased. The morning I saw the cob it was, unfortunately for me, sound, and remained so for twelve years, when it fell dead from heart disease. If I had seen it a day sooner, when it was lame, and had prescribed the application of salt to the tail, I would have, without a shadow of doubt, got great credit for touching the spot. As it was, I did get credit for charming away the lameness.

Other cases I have encountered in which horses have been seized with severe lameness when at work and had to be brought home in a float. After a few hours rest the lameness has disappeared, to reappear at irregular intervals at work. In some I have never observed the animal when lame, because the lameness had disappeared before my visit. The lameness eventually did not reappear. What are such cases? They could not be of an embolic nature, because the lameness suddenly appeared at irregular intervals. Judging from one's own feelings, these cases resemble the ephemeral rheumatic attacks when one puts one's limbs or muscles in an unusual position, especially after some previous exertion to which one has not been accustomed.

ANTI-HUMBUG.

DIAGNOSIS.

Dear Sir,

In writing articles for publication it is usual to use the plural "we" instead of the egotistical "I," but although this should be appreciated as a general rule, yet in some cases it is most objectionable, as for instance—

An individual conceives an idea, or is impressed from his experience that so-and-so is a fact. He should not definitely state in a public communication that from "our experience"—that is, the experience of the members of the profession to which he belongs; or "we" know that such-and-such is a fact, especially if the fact is that from the individual's experience in making post-mortem examinations he has found that his diagnosis usually proved to be incorrect. Of course, if he pleases to stultify himself by publishing his

errors he is quite at liberty to do so, but, in my opinion, he has no right to use the word "we," or in any other manner to inculcate the entire profession by including it by using the plural instead of the singular case in publishing his deplorable experiences; nor has he any right to stigmatise those whose experience is otherwise to his as "Sir Oracles etc." or to write in a derogatory manner of them. Such conduct, to my mind, is a breach of professional etiquette, and certainly does not tend to inspire the public with confidence in the ability of the members of the profession to apply practically the knowledge which is set forth as taught in the curriculum of our Colleges. Unfortunately, as above stated, some are lacking of the ability to utilise it successfully, but in the manner as above described are pleased to thrust their ability, or inability, forward in such matters as representing that of the whole body of their fellow practitioners.

The most intimate knowledge of anatomy, physiology, and bacteriology, etc., is not sufficient for a diagnostician; he also should be a close observer, having a clear perception of how to obtain information, such as the "history of the case" etc., requisite in forming correct opinions in differentiating ailments, and be able to apply intelligently the knowledge obtainable from the above-named subjects. His senses should not be defective, as it would be impossible for one musically deaf to discern correctly the difference of sounds, and a person colour-blind could not be expected to notice changes of colour of tissue, etc., and in a like manner, if the olfactory organs are defective, the power of noticing peculiar odours would not be reliable. The sense of feeling should be keen, otherwise a practitioner would often fail to discover important, though minute, changes of tissue, etc. Added to these, a careful examination is indispensable in making a correct diagnosis.

Of course, there are obscure cases—cases exhibiting indefinite symptoms, upon which a definite opinion should not be formed, but if such symptoms are exhibited as to justify a practitioner in forming a definite opinion, surely the post-mortem should verify the correctness of the opinion—not prove his diagnosis to be incorrect.

JAS. McKENNY, M.R.C.V.S.

REBATE ON PETROL.

Sir,

Now that such an extraordinary amount of travelling has been thrown upon us by the new Tuberculosis Order—especially as proper provision has not been made to compensate us for our arduous duties, it strikes me that the Government could hardly refuse us the rebate in petrol which they have granted to the medical profession, for are we not working for the eradication of human consumption. I think that all our Societies should move in this matter at once.

Before concluding, kindly permit me to state how sorry I am to see by your issue of to-day that our esteemed friend Mr W. Hunting, is so unwell. Every member who knows his great worth will earnestly pray that he may be quickly restored to health,—Yours truly,

JOHN HOLLAND.

Athy, Oct. 11.

AMPUTATION OF COW'S LIMB.

Sir,

I was interested to read in your issue of the 11th inst. of the successful operation carried out by Mr. Peter Meikle, M.R.C.V.S., and I am sure it will also interest your many readers to know that the paragraph and identical photograph appeared in *The Glasgow Evening Times* about three weeks ago.—Yours truly,

AMPUTATION.

Original articles and reports should be written on one side of the paper only and authenticated by the names and addresses of writers, not necessarily for publication.

Communications for the Editor to be addressed 20 Fulham Road, London, S.W.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1320.

OCTOBER 25, 1913.

VOL. XXVI.

OPERATIONS WITHOUT CASTING.

Many of us can remember the days when a horse destined to a serious operation, whether to be done under anaesthesia or not, was invariably first cast with ropes or hobbles. Probably more operations are performed now than then; but the hobbles or ropes are not so obligatory. A variety of substitutes for them have appeared.

Of course, operating tables for horses are available to those who can afford them; and in many respects they seem preferable to casting; but their use will always be rather restricted. A much more important substitute for casting, to the average practitioner, has come from the comparatively recent development of local anaesthesia. Many operations which were impossible without casting twenty years ago can now be performed painlessly upon the standing horse by modern methods of local anaesthesia. Again, the possibility of chloroforming the horse standing has become recognised; and an increasing number of veterinarians—like Mr. P. J. Howard, whose paper upon the subject appears in our pages this week—now dispense with casting in this manner. Another somewhat similar method, much practised abroad though not here, is the administration of large doses of chloral hydrate, generally given rectally.

Not one of these methods is likely to altogether displace casting. But alternatively they will supersede it to a considerable extent, and the change will be for the better.

There are two real objections to hobbles and casting ropes. Their use demands assistance, which ought to be skilled; and it is often difficult to obtain this in practice. Most clinicians can recall some trying experiences of casting with unskilled and nervous assistants. Again, though accidents to the horse in casting are not common, they are generally mortal when they do occur, and it seems impossible to guard against them with certainty. Casting by hobbles or ropes cannot be called easy unless skilled assistance is available, and under no circumstances can it be called quite safe; yet the method will always be necessary in given conditions, especially in emergencies in country practice. But their disadvantages should be remembered, and all available substitutes for them studied. The ideal practical clinician would be adept at several methods of casting, and would also understand the modern methods of avoiding casting. Local anaesthesia seems the most important of these, and "chloroform standing" may ultimately not be far behind it. Both require knowledge and practice for their proper performance.

INTUSSUSCEPTION OF THE CÆCUM IN A HORSE.

The patient, a seven-year-old black gelding, was admitted to the hospital at 3 p.m. on August 8th, 1913, showing symptoms of subacute abdominal pain, temperature 102, visible mucous membranes slightly congested, pulse 60, respirations accelerated. Enemata were administered, and the following drench given;—

R Ol. lini. Oi.
Ol. terebinth ʒi.

At 5 p.m. the animal still exhibited symptoms of pain, and a bolus consisting of Chloral hydrate ʒi. was given.

At 8 p.m. the patient was showing symptoms of exhaustion, and the following was prescribed:—

R Spts. ammon aromat. ʒiss.
Spts. æther nit. ʒiss.
Aqua ad Oi.

At 10 p.m. the animal being still in pain one ounce of Chloral hydrate was again administered.

At 3 a.m. the drench given at 8 p.m. was repeated.

Between 3 a.m. and 4 a.m. the patient became very violent, plunging and striking out with his fore feet; consequently a third ounce of Chloral hydrate was given.

At 5 a.m. exhaustion was very marked, and the patient died at 8 a.m.

Post-mortem examination revealed intussusception of the cæcum, and a rupture of the cæcum about two inches in length, close to the ileo-cæcal valve. The cæcum had passed into the lumen of the double colon, being turned completely inside out, like the finger of a glove.

The cæcum was strangulated at the caput cæci, the strangulated gut being of a deep red colour. The walls were fully an inch in thickness, due to a yellowish-red gelatinous infiltration into the connective tissue between the mucous membrane and the muscular fibres of the organ.

The entire intestines showed evidence of enteritis in an early stage, with patchy, ecchymosed areas throughout the lining mucous membrane. In the walls of the intestines were embedded numerous sclerostomes.

After carefully considering the case, I came to the following conclusion regarding the lesions found on post-mortem examination. The presence of the sclerostomes in the walls of the cæcum probably set up an acute inflammation, causing abnormal peristalsis, resulting in intussusception of the organ.

That the animal's death was brought about by this intussusception within seventeen hours from the first appearance of symptoms seems very improbable, and I am inclined to consider that the marked lesions found in the walls of the cæcum, and to a lesser degree throughout the whole intestinal tract, were the result of an acute intoxication, probably due to some of the common intestinal flora assuming pathogenic properties.

S. BLACK, Capt. A.V.C.
Aldershot, October, 1913.

LANCASHIRE VETERINARY MEDICAL ASSOCIATION.

The quarterly meeting was held on Thursday, September 4th, at the Grand Hotel, Manchester, the President, G. H. Locke, Esq., in the chair. The attendance included Messrs. Stent, Price, Burndred, Hopkin, Wolstenholme, Taylor, Carter, Edwards, Garnett, Noel Pillers, Lloyd, Holroyd, Ferguson, and Brittlebank.

Visitors: Messrs. W. Atkinson, S. E. Holmes, and E. J. Burndred.

Apologies for absence were received from Messrs. Darwell, Abson, and Heyes.

Minutes.—On the proposition of Mr. Wolstenholme, seconded by Mr. Lloyd, the minutes of the last meeting were taken as read.

The PRESIDENT, before opening the proceedings, desired to offer hearty congratulations to Mr. Carter on his election as President of the Royal College of Veterinary Surgeons. They had always considered Mr. Carter to be a typical Lancashire member who had always looked after their professional interests in the north.

Mr. CARTER returned thanks for their congratulations on the distinction conferred upon him. He hoped he would have health and strength to enable him to carry out the duties pertaining to the position, not only with credit to himself but to the profession also.

Nominations. Mr. J. D. RANKIN, Colne, was nominated for membership by Mr. Brittlebank.

Elections. Mr. J. T. ABELL, Derby; Mr. E. J. BURNDRED, Blackburn; Mr. J. HUGHES, Welshpool; and Mr. A. M. MUNRO, Board of Agriculture, were unanimously elected members of the Association, being proposed by Messrs. Locke, Lloyd, Hughes, and Locke respectively, and each seconded by Mr. Brittlebank.

National Veterinary Benevolent and Mutual Defence Society: Election of Life Governor. Mr. BRITTLEBANK, secretary, reminded the members that this matter had been referred to the Council for consideration. They had met on August 13th, and recommended that Mr. G. H. Locke should be appointed.

Mr. TAYLOR had pleasure in moving that Mr. Locke be appointed to replace Mr. Faulkner as Life Governor of the Society; Mr. Wolstenholme seconded, and it was carried.

Mr. LOCKE accepted the honour with many thanks.

Election of Auditor. For the vacancy created by the death of Mr. Faulkner, the Council recommended that Mr. James Spreull be elected. This was proposed by Mr. Brittlebank and seconded by Mr. Noel Pillers. [Carried.]

New Tooth Shears. Mr. TAYLOR enquired whether anything had been done in this matter.

Mr. BRITTLEBANK replied that he was in communication with makers, and no doubt would be in possession of tooth shears within the next few days.

International Veterinary Congress. Mr. GARNETT asked what the Council recommended with regard to

the Congress. They were several hundred pounds short, and he thought the Society might consider whether they could afford an increased subscription.

Mr. BRITTLEBANK replied that the matter had been fully discussed, and he thought they had fairly good reasons for delaying the steps they proposed to take. In a short time, however, a circular would be sent to all members of the Lancashire V.M.A., and also to all members of the profession resident within fifty miles of Manchester, with the exception of Yorkshire. It was hoped that such a sum would be raised as would come up to what the Lancashire Society usually does.

Mr. STENT, as Treasurer, said it would be impossible to give a further sum this year out of the funds of the Association.

PATHOLOGICAL SPECIMENS.

Mr. A. W. NOËL PILLERS exhibited the following interesting specimens:—

1. *Ascaris transfuga* from a brown bear.

2. *Hypoderma* sp. Larval form from the spleen of an ox, found by Mr. E. J. Burndred, M.R.C.V.S., Blackburn.

3. *Linguatula lanceolata* usually known as *L. Tenioides*, from the nose of a dog, which formed the subject of a note in *The Veterinary Record* for July 26, by Mr. H. Tudor Hughes, B.Sc., M.R.C.V.S., Oswestry, by whom it was presented.

4. *Limnatis* sp. A leech from the nasal cavity of a dog from the Punjab of India. Presented by Lieut. Murray, A.V.C.

Mr. STENT submitted an X-ray photograph showing a tumour in the abdomen of a dog and gave the following history. "The animal was only five years old, but in a very obese condition, had always been healthy. It was taken suddenly ill with vomiting, and being a dog that rambled the owner thought it had taken up poison, and gave castor oil, which was immediately rejected. The sickness continuing I was called in, and finding much pain on abdominal pressure applied hot poultices and gave gastric sedatives, also glycerine enema, which soon acted, and gave some relief. There being no improvement next day, I suspected either intussusception or stoppage due to stones or bones. Finding it impossible correctly to diagnose which, owing to the very obese condition, I sought the aid of the X-rays, which revealed on the plate from which this photo was developed, what was apparently a large growth, by its size and shape; it certainly was not a stone, nor an intussusception.

Operation was attempted, but on opening the abdomen a large fibrous tumour was seen involving the bowels to such an extent that the animal was destroyed.

The points of interest are the use of the X-rays as means of diagnosis in abdominal trouble, and the fact of this large growth, weighing 8 ounces, not causing any trouble until acute symptoms such as might occur in ordinary gastritis, supervened: evidently brought about by pressure of the tumour on the bowels, causing complete obstruction.

Mr. BURNDRED mentioned a similar case in a cat, but the bowels were reduced externally about one-third their ordinary size and inside nothing could possibly pass.

Mr. WOLSTENHOLME exhibited the brain of a horse, which had been hardened and sectioned. The animal had died in the street from an attack of "Megrims." He had been struck with the paucity of lesions found on post-mortem in brain affections in the lower animals. At one time he had interested himself in examining the brain of cows which had died of milk fever, and also had the help of friends, but no change could be discovered. Then again, in examining the brain of horses affected with megrims he had never found more than congested vessels, except in one case, where hemorrhage had caused apoplexy.

The patient from which the specimen was taken was a cart horse, nine years old, which had been four years in the service of one company. No report or complaint had been made until about a month before death, and contrary to his wishes the horse was not sent to hospital, but remained at work, and died in the street. Congested vessels only were found.

Mr. Wolstenholme next showed the viscera from a fox terrier bitch; most of the organs of the body, showing firm, grey new growths, much like sarcoma. On microscopical examination they proved to be tubercle.

Also a portion of a tumour involving the small bowel of a cart horse. The patient was old, and commenced to lose weight without visible cause: after the lapse of a little time under rest and mild tonics, Mr. Wolstenholme explored the rectum and felt a tumour near the floor of the abdomen, at the full extent of his arm.

The horse was destroyed, and on post-mortem examination, two tumours were found, each about the size of a child's head; the small bowel passed through both of them, one was about six feet from the pylorus, and the other about twenty feet. A section under the microscope showed the bowel to be invaded by a new growth, like a small round-celled sarcoma, the muscular coat being mainly involved, whilst the mucous membrane was necrotic. No other growths were found in the body.

The action of the bowels had been normal and regular up to death. There was some colic after rectal examination.

Mr. Wolstenholme also exhibited dried plants of the *Cicer Arietinum* (Gram), and the *Lathyrus sativus* (Mutter), together with samples of the grain from each.

SOME INTERESTING CASES MET WITH IN GENERAL PRACTICE.

By W. GEO. BURDRED, M.R.C.V.S.

Mr. President and Gentlemen,—When our Secretary honoured me by asking me to read a paper before you, I had no hesitation in promising to do so, and I did not, until afterwards, realise that the time at my disposal was strictly limited and very inadequate. However, I have decided to bring to your notice a very few cases which present points of interest and should lead to a varied discussion. I shall not attempt to go into the extreme detail of each case, but shall give rather an impressionist account of each one as it presented itself to me.

Case No. 1.—On January 27th of last year, I was called to a grey cart gelding which was said to have gone suddenly lame, and on arrival at the stable found the said gelding resting the near fore-leg and exhibiting symptoms of very great pain. Attempts to make the animal move proved futile, and as the position of the limb gave me no definite sign at that time, I decided to have the shoe removed and the foot examined. Finding the result negative, I made a more thorough examination of the limb, and finally concluded that the pain was located somewhere in the region of the elbow joint. A dose of physic was given, and a stimulating liniment applied after hot fomentation.

The animal continued in the same condition for ten days, and then a doughy swelling appeared over the ulna. I suspected fracture, and placed the animal in slings. Consultation with a neighbouring practitioner rather strengthened this diagnosis, but it was decided to treat for a time and await developments, the treatment at this time consisting of the application of a 1 to 8 iodine ointment. Strange to say the swelling was much reduced by this, but as no improvement was apparent, the animal was destroyed on February 27th, just a month from the first sign of lameness.

Post-mortem. The affected leg was first examined. The intra-muscular tissue was infiltrated with a yellow

fluid and the muscle tissue was paler than normal. On opening the joint a large quantity of synovia escaped, and this when manipulated was found to contain grit, the result of erosion of the articular surface of the ulna, radius, and humerus. A further examination of the carcass showed, as far as the eye could see, the organs to be healthy, but there were numerous swellings along the course of the spinal vertebrae.

These swellings varied in size from that of a walnut to that of a cricket ball, or even larger. The knacker man was instructed to cut out these parts and send them to me, but, unfortunately, he first boiled them, so that the lesions don't exist completely in the specimen bones on the table.

The previous history of this horse may have some bearing on the case. He was bought from a dealer in 1910, and was passed as sound. About six months after purchase the membrana nictitans of the left eye was found to be enlarged and covered with small yellow specks, and the membrane was removed with satisfactory result, the animal keeping in apparently good health until about a year before his death. At that time he was noticed to be very unsteady when made to move in the stall, and finally fell, but got on his feet again very quickly. I saw him within two hours of this, and apart from the unsteady gait and a stiffness of the hind quarters, there were no definite signs from which to form a decided diagnosis. Treatment consisted of dieting and a dose of aloes, and he was fit for work in a few days. Latterly, however, his driver informed me that although he could back a heavy load well, he did not shaft comfortably down hill.

On no occasion was this horse's temperature more than 101 F. In the absence of a scientific examination of the lesions, I can only say that the whole facts suggest to me "tuberculosis," and I shall welcome discussion of this case in particular.

Case No. 2. The subject of this case was a brown cart gelding, about 12 years old, and over 18 hands high, the property of a contractor who owned about fifty horses.

History. Was bought from dealers in March, and was said to have come from Nottingham, and was a splendid draught horse. About the beginning of July it was not doing well, and the teeth were rasped at the request of the owner. Nothing further was heard of it until August, when the owner sent for a "purging ball," and the day afterwards called in veterinary aid. On this day the attending surgeon suspected glanders, and asked me to see the case. I went over with him, and we examined the horse together.

Symptoms. The temperature was 105 F., appetite capricious, coat staring, mucous membranes pale and unhealthy, and when made to move the animal groaned. The hind legs were very much swollen, and on the course of the lymphatics were numerous hard swellings, varying in size from half a walnut to a filbert. Several of these swellings had burst and formed ulcers. There were also swellings on the abdomen and breast. The lymphatics in the inter-maxillary space and on the side of the cheeks were enormously swollen, knotted, hard, and adhering to the surrounding tissue. Ulcers were present in this locality, discharging a viscid straw-coloured fluid, and there were bare patches, apparently where ulcers had healed. When these swellings were first noticed, the man informed us that he had been fomenting them, and had got them to burst. There was a discharge from both nostrils, but more particularly the right, and ulcers and pimples were easily seen on the schneiderian membrane.

Diagnosis. Glanders and farcy. The interesting part of the case lies first in the fact that the disease had so far advanced before it was recognised.

Next that although the matter was immediately reported to the authorities no action was taken until

the next morning, when the local veterinary inspector arrived and confirmed our diagnosis. The police then took charge, and the carcass was buried in the contractor's yard in a hole eight feet deep, after covering it with quicklime, within a few yards of the stables, and not more than fifty yards from the main road of a fairly thickly populated town. The remaining horses were not tested with mallein, and work went on as usual.

About the time this animal was bought, I was asked by the police to inspect the horses on the premises of the dealers from whom the horse was bought, as an outbreak in another Midland town had been traced to this stable, but no horses were on the premises when I arrived. Was there a connection between the cases, and is glanders more prevalent than we realise, though undetected?

Case No. 3.—Subject. A black van mare, aged six, 15-3 hands high, the property of a wholesale grocer and provision merchant. Had worked sound until the previous evening, when she had returned to the stable rather lame.

Symptoms. The animal was resting the near fore foot with the heel slightly raised from the ground; when made to move, did so with difficulty and suffered great pain when weight came upon the affected limb. Examination of the foot revealed a "corn," but this was neither suppurating nor painful. One of the outside quarter nail holes was rather close, but no resistance was shown when the hoof was pinched. There was no ring or sidebone, and at that time no tenderness nor swelling of the coronet, but since, from the symptoms, I was convinced that it was a case of foot lameness. I ordered hot antiseptic fomentations and poultices, and awaited developments. In fourteen days there was no diminution of the pain, and a small area of the coronet was painful to the touch, this area being in size not more than a threepenny piece. On the seventeenth day I requested a second opinion, and next day I consulted a well-known practitioner, who agreed that the foot was the source of the trouble, and advised continuance of the hot applications for a time, expecting some visible change in the coronet.

The animal at this time was removed to my premises and placed in slings, as she had ceased to lie down and was rapidly losing condition. The off-fore leg was cedematous and sinking.

No change took place, and a blister was applied to the coronet, with the result that swelling of the coronet which had appeared was much enlarged. This was followed by iodine ointment; and eventually the swelling burst and discharged a thin yellow fluid. Healing took place rapidly, but the swelling had by this time extended all round the coronet.

Another blister was applied, and the animal sent to grass two months after the first sign of lameness, having to be conveyed to the field in a float.

Great improvement was noticed in a week or two, but the lameness returned, and for some time at intervals of about three weeks to a month, a soft swelling would appear. Each time the swelling was opened and a thin transparent yellow fluid was liberated, and the cavity syringed with antiseptic fluids, principally perchloride of mercury solution.

At the end of six months the animal could walk fairly well, but not soundly, and was sold and lost sight of. I consider this a case of suppurative coronitis, brought about by mechanical injury to the coronet, although at first I was much inclined to blame a binding nail.

Case No 4.—This was an aged black cart mare affected in the same way as the previous case, but in the off hind coronet. The lameness was caused in the first place by a tread in frosty weather, and this was neglected by the owner. On first impression quittor suggested itself, but the case proved one of coronitis,

and lasted for nearly six months, ending in sale before recovery.

In this case and the former, combined streptococcus and staphylococcus vaccine was used.

Case No. 5.—About a fortnight ago I was called to a light cart gelding which had been staked. He was a new purchase, and had been turned to grass about an hour when he seemed to stumble from the top of grain log and fall on a dry stake, which penetrated the abdomen a little to the left of the umbilicus. Examination of the stake showed it to have been buried to the extent of eight inches.

The wound was explored, and several small pieces of wood removed, after which it was syringed with a solution of lysol and a pad soaked in a solution of corrosive sublimate was applied and kept in place by means of a very broad bandage. On the first night, as the temperature was up and the breathing rapid, fomentations of hot water containing lysol were kept on all through the night. By morning urgent symptoms were relieved. Tetanin was injected as a preventive. The wound kept healthy and there was practically no discharge.

Tetanus developed on the ninth day, and in spite of further injections of "tetanin" the animal grew rapidly worse and died on the eleventh day.

Post-mortem showed the wound apparently healthy, but there was localised peritonitis and adhesion of the bowel to the abdominal wall.

Previously to this case I have had some remarkable recoveries from tetanus, using nothing but quiet and "tetanin" injections, and so had great faith in the latter as a preventive.

Case No. 6.—A case of a parturient cow which had prolapse of the vagina, accompanied by much straining. Examination showed that she was not prepared for delivery. A difference of opinion had arisen in regard to the application of sutures in such a case, and he desired to hear what the practice of country members was.

DISCUSSION

Mr. CARTER asked whether in Case No. 1 there was penetration to the joint. The reply was negative.

Mr. PRICE said in cases of prolapsed vagina he should certainly use sutures, even when the cow was near parturition. If the cow went worse and the pains came on the sutures could readily be taken out. He often used West's clams in these cases with good results.

Mr. LLOYD bore out Mr. Price in regard to suturing. When a vagina is exposed it is liable to injury from other animals, and he knew a case where an attendant had put a fork through it. In the case of tuberculosis he asked whether there was any particular stiffness of the spinal column, particularly about the neck and whether Mr. Burdred had considered testing with tuberculin. He instanced a case which was in a chronic state of waste; it was in a loose box about four weeks and if held by the nose had great difficulty in turning. The temperature was high, and it was impracticable to apply the tuberculin test. We diagnosed tubercle, and this was confirmed by post-mortem.

Mr. NOEL PILLERS referred to the case in which tetanin was injected as a preventive, and he presumed that anti-tetanic serum was meant. If so he failed to see why tetanus should supervene, as the serum was reliable. Was the serum from a good firm and was the dose sufficient?

Mr. EDWARDS was interested most in the case of ulcerated coronitis. One often saw such horses and there is no doubt about the lameness and subsequent enlargement accompanied with a dark-red jelly-like material. He had also seen the same on the inside of the fetlock joint. He wished to know whether in Mr. Burdred's opinion these cases were due to injury.

Mr. CARTER mentioned a case in a horse with foot lameness. He examined the foot carefully but could not discover anything, there was no swelling nor enlargement of the coronet; poultices were applied. In the course of a week there was enlargement all round the coronet. The ulcer burst and there was this jellified condition. The horse was subsequently destroyed, and on post-mortem examination he found it to be the navicular bone which was affected.

Mr. BRITTLEBANK congratulated Mr. Burndred for his practical paper. He wished to know whether in carrying out the post-mortem on the horse supposed to be suffering from tuberculosis, any other lesions were found, especially if a careful examination had been made of the lymphatic glands. The lesions appear to be somewhat unusual as compared with conditions commonly seen in cases of bone tuberculosis and on the evidence it is difficult to come to any definite conclusion. Probably the essayist's diagnosis was correct, but, to him, it appeared doubtful without further evidence.

In regard to cases of prolapsed vagina prior to parturition, this, in his experience, happens very commonly in aged and debilitated cows. One has also seen it very commonly in ewes. Personally his cases did much better by using sutures than by clams. It was curious how experience in practice could differ. Mr. Price liked in these cases to put on Wests' clams in his experience, and he had often used them; he had had very few satisfactory results, in fact to be candid he considered that the use of them was often attended with a good deal of unnecessary cruelty. He agreed with Mr. Burndred that it is an excellent plan to pack the hind quarters as high as it is comfortable to place them, but it is not always easy to get a suitable bed and retain the animal in position.

Mr. BURNDRED, replying to various questions, said he did not use tuberculin in Case No. 1, simply because he did not suspect tuberculosis. He did not examine the lymphatic glands. In Case No. 5 he did use anti-tetanic serum, which was obtained from the Pasteur Institute. In the case of coronitis the fluid was straw-coloured, but in Case No. 3 he got the red jelly-like fluid. He thought such cases were due to injury.

Mr. BRITTLEBANK moved a vote of thanks to Mr. Burndred, and in doing so wished to thank Mr. Burndred personally for the very kind and ready response to his invitation to bring a paper before the Society. It was no easy matter at times to induce people to step in and contribute for the welfare of the Society. In no less degree were the thanks of the Society due to those who had brought specimens. He had therefore particular pleasure in moving the vote of thanks to Mr. Burndred and those other gentlemen who had assisted.

Mr. CARTER, in seconding, said the specimens had been of a highly interesting nature.

The PRESIDENT, in supporting, remarked that the duties of the officers were considerably relieved when members came forward so readily to contribute to the meetings.

J. W. BRITTLEBANK, Hon. Sec.

THE CENTRAL VETERINARY SOCIETY.

The annual meeting was held at 10 Red Lion Square, London, W.C., on Thursday, 2nd Oct., Mr J. W. McIntosh, president, occupying the Chair.

The following Fellows signed the attendance book:—Messrs. G. Gordon, H. D. Jones, H. J. Parkin, Prof. G. H. Wooldridge, J. B. Buxton, Vet.-Capt. G. Rees-Mogg, W. Perryman, W. S. Mulvey, G. D. Martin, E. Lionel Stroud, R. J. Foreman, S. H. Slocock, W. R. Clarke, P. W. D. Smith, R. Bennett, G. H. Livesey, D. H. Wood, and Hugh A. MacCormack, hon. sec.

Visitor: Major Pallin.

On the motion of Mr. Mulvey, seconded by Capt. Rees-Mogg, the minutes of the last annual general meeting were taken as read and confirmed.

CORRESPONDENCE.

The HON. SEC. read a letter, dated July 25th, from Mr. Fred Bullock, Secretary of the R.C.V.S., acknowledging receipt of a letter enclosing resolution passed at the July meeting of the Society.

Also a letter from Prof. Woodruff, acknowledging letter informing him that the Society had conferred upon him its Honorary Fellowship. Prof. Woodruff thanked the Fellows sincerely for the honour thus conferred upon him, and stated that he would always remember the happy nights he spent with them at their meetings.

Letters regretting inability to attend the meeting were received from Messrs. J. C. Coleman, A. L. Butters, and J. Willett.

The HON. SEC. announced that the following Fellows had resigned: Messrs. Arthur Broad, T. C. Gillard, T. M. Hunt, and F. H. Sanderson.

On the motion of Mr. R. J. Foreman, seconded by Mr. W. S. Mulvey, the resignations were accepted with regret.

Nominations for Fellowship.—Vet.-Major W. A. PALLIN, Royal Horse Guards; and Mr. G. P. MALE, Reading, were nominated, and will come up for election at the next meeting.

ANNUAL REPORT AND BALANCE SHEET.

The HON. SEC. read the following annual report:—

Mr. President and gentlemen,—The Council has pleasure in announcing that the Session 1912–13 has been a very successful one. Thirteen Fellows have been elected, and four have resigned. We have to deplore the death of an old and active Fellow—Mr. A. Rogerson.

The annual meeting was held in October, at which Mr. J. W. McIntosh was unanimously elected President. Ten ordinary and two Council meetings have been held, with an average attendance of 36 at the ordinary meetings.

In November the annual dinner was held at the Holborn Restaurant, at which 94 were present.

At the December meeting the President gave the customary address.

We have to thank the following gentlemen for reading papers and introducing improved instruments during the Session:—Mr. G. H. Livesey, "Notes on some problems of everyday Dog Practice"; Mr. Henry Gray, "Tuberculosis in the Dog, Cat, and Bird"; Mr. F. W. Chamberlain, "Eczema in the Dog"; Prof. F. Hobday, "The Veterinary Profession and the Animal Anæsthetic Bill." Demonstration of a new electrical apparatus for the administration of chloroform vapour and description of a chloroform mask, suitable for the horse either when standing or cast, by Prof. F. Hobday. The several papers were thoroughly discussed, and a noticed feature was the large numbers who took part in the discussions.

Circular letter from South-Eastern Veterinary Association re fees paid by insurance companies. Circular letter with scale of fees and allowances payable to veterinary inspectors, from the N.V.A. Southern Branch. Mr. R. J. Foreman delivered his report of the Royal Sanitary Institute Congress at York. Mr. J. W. McIntosh was appointed to represent the Society at the Royal Sanitary Institute Congress at Exeter, and his report will be given in due course.

We beg to remind you that next year the Tenth International Veterinary Congress will be held in London, and those gentlemen who have not yet subscribed to the fund are urgently requested to do so.

Your Council are very pleased to note the numerous interesting and instructive specimens brought to the meetings, and they hope Fellows will continue to do so.

We beg to thank the following Fellows—Prof. Wooldridge and Reynolds, Messrs. Price, Jones, Macdonald, Foreman, Davis, Neish, Eaglesham, F. J. Taylor, Stewart, Bennett, S. L. Slocock, Hobday, and Buxton.

The balance brought forward and receipts for the year amount to £152 14s. 5d., the expenses £78 1s. 7d. and the sum of £10 10s. has been placed to capital account, leaving a balance of £64 2s. 10d., which the Council consider very satisfactory.

Prof. G. H. WOOLDRIDGE, in moving the adoption of the report, thought it was a very satisfactory one in every respect, both financial and otherwise.

Mr. R. BENNETT seconded the motion, which was carried unanimously.

On the motion of Mr. Mulvey, seconded by Mr. Perryman, the Hon. Treasurer and Hon. Secretary were appointed scrutineers of the ballot for the election of officers.

ELECTION OF OFFICERS.

The PRESIDENT (Mr. J. W. McIntosh) said they had now reached that stage of the proceedings when he was about to vacate the chair, but before he did so he desired to thank the Fellows of the Society for the support they had given him during the past year, and for the kindness and courtesy extended to him during his term of office. He wished especially to thank the office bearers, the members of Council, Auditors, and the Treasurer for looking after the finances of the Society in such an admirable way; and he particularly wished to thank their energetic Secretary for the earnest and thorough manner in which he carried out the work of the Society. It was necessary to occupy the chair only for a very short period to obtain a profound admiration for the intense enthusiasm which Mr. MacCormack threw into the conduct of the work. It was customary for the President to nominate his successor, and he had much pleasure in proposing that Prof. Wooldridge should be elected President for the ensuing year. (Cheers). No words of his were needed to commend the nomination. Prof. Wooldridge had been an active member of the Society for many years; he was a regular attendant at its meetings, and he was ever ready and willing to contribute from his store of knowledge in the form of papers or the discussion of them. He felt honoured to have the privilege of proposing him as his successor. (Cheers).

Mr. R. J. Foreman seconded the motion, which was carried by acclamation.

Mr. MCINTOSH, in vacating the chair in favour of his successor, congratulated Prof. Wooldridge on attaining to the position, and expressed the hope that his period of office would give him as much pleasure as his (Mr. McIntosh's) period had given to him.

The chair was then taken by Prof. Wooldridge amid hearty cheering. He briefly thanked the Fellows for the honour they had paid him.

Mr. SLOCOCK, in proposing a very hearty vote of thanks to Mr. McIntosh, the retiring President, said that in its time the Society had had some excellent Presidents, but it had probably never had one who had carried out the duties in a better and more impartial way than the retiring President. (Cheers).

The PRESIDENT (Prof. Wooldridge) said the sentiments Mr. Slocock had expressed were so obviously the feeling of the meeting in general that it was not at all necessary the motion should be seconded. He endorsed every word Mr. Slocock had said, and personally felt the difficulty in which he would be placed in following such an excellent President.

Mr. J. W. MCINTOSH thanked the Fellows most sincerely for their kind vote of thanks. If his efforts had satisfied them he felt more than rewarded. (Cheers).

Vice-Presidents—A ballot was then held for the election of four Vice-Presidents, and as a result the

following gentlemen were elected: Messrs. J. W. McIntosh (retiring President), F. Willett, W. S. Mulvey, and G. H. Livesey.

Council. Ballots were then taken for the election of twelve members of Council. The first ballot resulted in a tie between Messrs. Davis, Price, and Gosling for the last two places, and the second ballot resulted in Messrs. Price and Gosling being elected. The following is the complete list—Messrs. W. Hunting, Macqueen, Harrison, R. J. Foreman, W. Perryman, J. Willett, S. H. Slocock, W. A. D. Smith, S. Villar, J. B. Buxton, T. S. Price, and J. A. Gosling.

Hon. Treasurer.—On the motion of Mr. R. J. Foreman, seconded by Capt. Rees-Mogg, the retiring Hon. Treas., Mr. E. L. STROUD, was unanimously re-elected, the President stating that it was impossible for the Society to make a better choice.

Mr. STROUD thanked the Fellows very sincerely for their renewed vote of confidence, and stated that it gave him very much pleasure indeed to look after the funds of the Society.

Hon. Sec.—Mr. J. W. McIntosh, in proposing the re-election of Mr. H. A. MACCORMACK as Hon. Sec., said the Society could not do without him.

Mr. BUXTON seconded the motion which was carried by acclamation.

Mr. MACCORMACK briefly acknowledged the compliment, thanking the Fellows for the further honour they had conferred upon him.

Trustees.—On the motion of Mr. J. W. McIntosh, seconded by Mr. Perryman, the Trustees, Messrs. Woodger, Butters, and Slocock, were unanimously re-elected.

Auditors.—The retiring Auditors, Messrs. W. L. Harrison and W. Roger Clarke, on the motion of Mr. Slocock, seconded by Mr. Perryman, were unanimously re-elected.

Dinner Committee.—It was unanimously resolved, on the recommendation of the Secretary, that the Dinner Committee should consist of the senior officers of the Society: The President, Secretary and Treasurer, and Messrs. McIntosh, J. Willett, and Prof. Macqueen, the Committee being empowered to co-opt another member if they so desired.

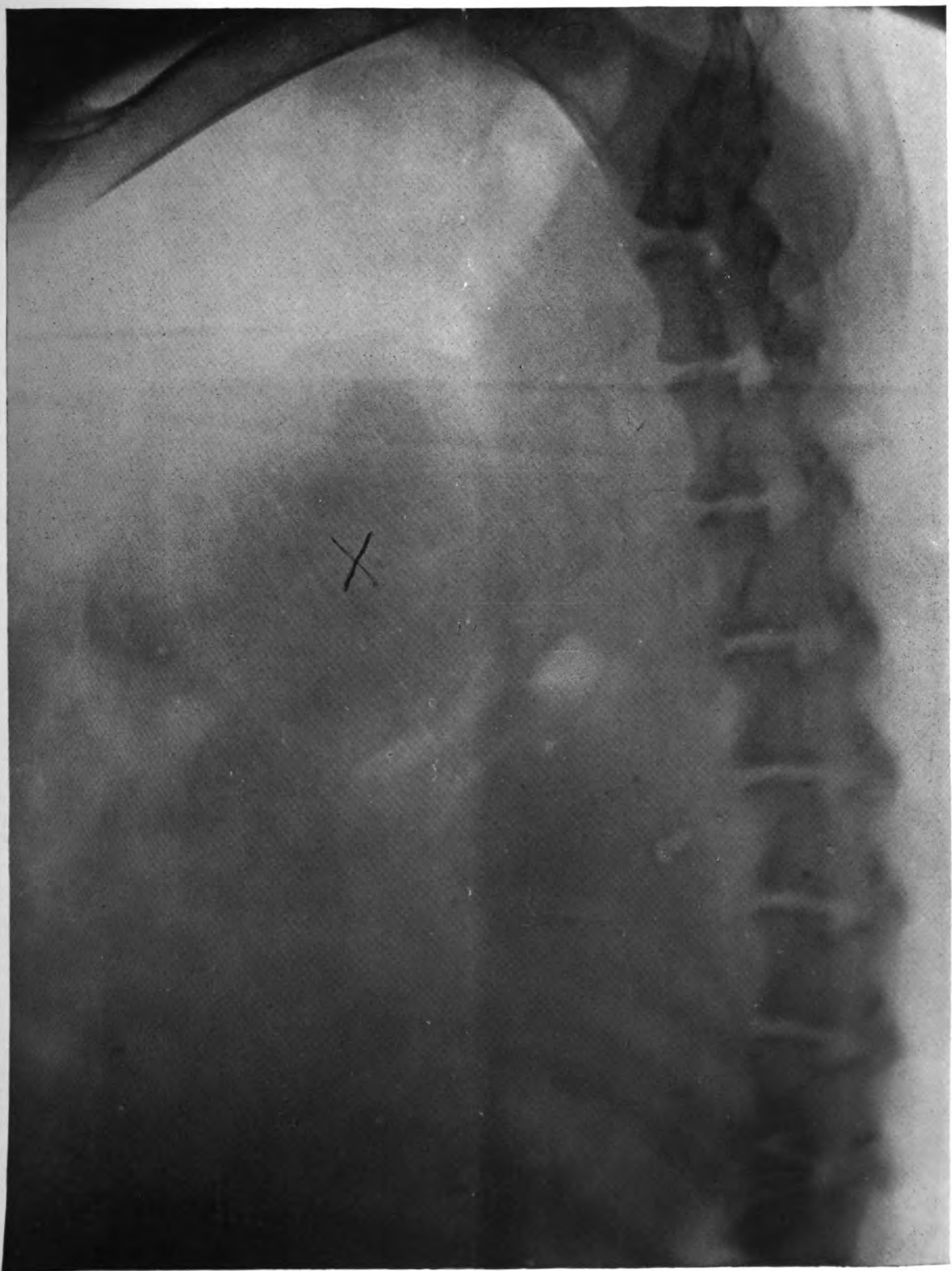
The PRESIDENT said he presumed it was the desire of the fellows that the practice of inviting ladies to the dinner should be continued. From his own point of view he thought it added considerably to the enjoyment of the evening. (Hear, hear.)

Mr. FOREMAN thought the decision rested entirely with the President, a view which was confirmed by the Secretary.

The PRESIDENT said he was not aware he possessed such a power, and he should certainly decide in favour of the attendance of the ladies. (Cheers).

MORBID SPECIMENS.

Mr. LIVESEY exhibited some specimens of a parasite which seemed to him to be a form of bot or the larvæ of a fly which he found in a Yorkshire terrier. He did not know whether it came from the rectum, the stomach or the bladder; he presumed it came from the stomach. The little dog came to him for the purposes of quarantine; it had been detained for some weeks, and to all appearances was in perfect health. In the previous week, when his man was going his rounds, he found on the floor by the side of where the dog was sleeping, a patch of moisture and two of the parasites. Two of the parasites that he exhibited that evening were found on the blanket on which the dog lay. The dog lay on a blanket in a basket, which stood on a wooden platform on a linoleum floor. The morning after the two parasites were found on the blanket in the basket, a patch of moisture was found on the board alongside the basket, which on being brought down into the sunlight



TUMOUR IN THE ABDOMEN OF A DOG. (X)

To illustrate note by Mr. E. H. Stent, (Lancs V.M.A.)

was found to be swarming with grubs in all stages, from the size of a pinhead to a quarter-of-an-inch. The skin of the dog was absolutely healthy, and so far as he could see the dog was healthy in every respect. Where the parasites came from he did not know, and he had never seen anything like them before. He had shown them to five or six people who knew something about parasites, but they had not been able to tell him the name. He had ascertained that the dog came from Natal. He had shown the parasites to two people who came from that Colony, but they knew of no insect in the country which gave a larvæ of that description. If any Fellow could give a name to it he would be very much obliged, because the owner was very anxious about the dog.

Mr. R. J. FOREMAN said that in the previous year he had a dog brought to him, the owner insisting that it was passing parasites or grubs in the motion. As far as his memory served him they were more of the maggot class. Professor Woodruff kindly examined some of them at Camden Town, and on referring to some back numbers of *The Lancet* found that in the human subject, in children especially, such live parasites occurred. The children passed them at night. It was intended to see what the grubs matured into, but they all died.

Mr. LIVESY stated that so far the parasites had only been passed in the night.

The PRESIDENT (Prof. Wooldridge) thought there was no doubt whatever that the parasites were larvæ of an insect, and the circumstances under which they had been found lent considerable colour to the statement that they might either have been vomited or passed by the dog. But as none of them had been seen to be passed, and the fact that they varied in size from a pin head to a quarter-of-an-inch, made him think it was quite possible they were larvæ of insects that had been deposited on the moist patches of the kennel. To his mind it was not at all proved that they had ever been inside the dog, and although he was not able to identify them at once, he believed them to be of external origin. Mr. Livesey had kindly promised to give him the specimens, which he would submit to some authorities on the subject, and he would inform the members at a future meeting whether their identity had been established.

[Professor WOOLDRIDGE has since reported to the Hon. Secretary that he submitted Mr. Livesey's specimens to Dr. R. T. Leiper, who in turn submitted them to Dr. Alcock. The latter has identified them as larvæ of the lesser house fly (so-called), viz., *Homalomyia* (*Fannia*) *cunicularis*. That being so, it is unlikely that they were passed by the dog.]

The PRESIDENT exhibited, on behalf of Mr. Martin, a specimen taken from a cat. On examination during life, what appeared to be a pedunculated abdominal tumour was found, and the cat was anaesthetised with a view to its removal. On performing laparotomy and bringing the enlargement into view, it was found to be some new growth through which a portion of the bowel was passing, and closely associated with the omentum. Finding that the condition was quite inoperable, the cat was despatched, and on making a post-mortem examination the condition shown in the specimen was disclosed. Mr. Martin was not sure as to its nature, as he had not been able to make a microscopical examination, but he suggested the possibility of it being tuberculous. Personally, he (Prof. Wooldridge) had seen a number of cases of mesenteric tuberculosis of the cat exactly conforming to the specimen, and he had very little doubt that it was a case of mesenteric tuberculosis of the cat. He intended to have smears made for the purpose of obtaining a definite decision on the point.

[Since the meeting, Prof. Wooldridge has examined smears from the specimen and demonstrated tubercle bacilli in profusion.]

HUGH A. MACCORMACK Hon. Sec.

VETERINARY MEDICAL ASSOCIATION OF IRELAND.

The quarterly meeting was held in the Gresham Hotel on Tuesday evening, 26th August, the President, Mr. P. J. Howard, presiding. Also present, Messrs. McKenny, Watson, Reavy, Winter, Mahony, Holland, Thompson, Dunlop, Vahey, Dobbyn, Baker, Mason, T. F. O'Brien, J. J. O'Brien, Renchan, MacCann, Cushmanah, Heney, Hare, Healy, E. Wilson, and Col. Moore.

Mr. WATSON: I propose that the minutes of the last meeting be taken as read.

Prof. O'CONNOR seconded the motion.

There being no objections, the minutes were signed by the Chairman.

APOLOGIES.

Prof. O'CONNOR announced that apologies had been received from Messrs. Wilkinson, Hamilton, Patrick, and Profs. Mettam and Craig.

Mr. McKENNY: Mr. Allen asked me to apologise for him. He is sorry he is unable to be present.

The CHAIRMAN: Mr. Prentice sent a message also. Unfortunately he is unable to be present.

The SECRETARY read a report of meeting which he had received from the Munster Veterinary Inspectors' Association:

MUNSTER VETERINARY INSPECTORS' ASSOCIATION.

A meeting of the Veterinary Inspectors of Munster was held at Moran's Hotel, Mallow, on Monday, 23rd June, 1913. In the Chair: Mr. M. F. Lynch, M.R.C.V.S., Dungarvan. Also present: Messrs. J. Preston (F), Mallow; J. A. Hewson, Killarney; P. J. Walsh, Croom; D. Barry, Skibbereen; J. F. Mahony, Cork; T. M. Ryan, Limerick; M. J. Mitchell, Kilmallock; R. J. Murnane, Newcastle West; W. J. Foley, Tralee; A. Dobbyn, Waterford; W. Dagg, Dingle; C. P. Hynes, Lismore; M. F. Lynch, Dungarvan; J. J. Walsh, Youghal; D. M. Barry, Mallow; P. W. Creagh, Fermoy; W. Phipps, Bandon; W. Power, Tipperary; T. I. Alexander, Kinsale.

Proposed by Mr. C. P. Hynes, seconded by Mr. J. Preston, and passed unanimously:—"That an Association be formed to be called the Munster Veterinary Inspectors' Association, with the object of protecting the interests of the profession in connection with the administration of the Contagious Diseases of Animals' Act, more especially in connection with the Administration of the Tuberculosis (Ireland) Order of 1913.

OFFICERS.

President.—Mr. D. M. Barry. Proposed by Mr. M. F. Lynch, seconded by Mr. W. Dagg.

Hon. Secretary.—Mr. T. I. Alexander. Proposed by Mr. E. A. Phipps, seconded by Mr. J. A. Hewson.

Hon. Treasurer.—Mr. P. W. Creagh. Proposed by Mr. J. A. Hewson, seconded by Mr. R. J. Murnane.

Proposed by Mr. W. Power, seconded by Mr. D. M. Barry, and passed unanimously:—"That the annual subscription to the Association be 10s. 6d."

It was agreed that all present become members, and that the remaining veterinary inspectors of Munster be invited by the Hon. Sec. to join the Association. Further, "That four form a quorum at any meeting of the Association."

The following scale of fees in connection with the administration of the Tuberculosis (Ireland) Order of 1913, was adopted:

For clinical examination of each animal reported as suffering from tuberculosis	£1 1 0
Examination of each additional animal on same premises	2 6

Applying "tuberculin" test to each animal	1	11	6
Post-mortem	1	1	0
Microscopical examination of milk for tubercle bacilli		10	6

The above fees include mileage, any reports necessary, valuation, etc.

T. I. ALEXANDER, Hon. Sec., M.R.C.V.S.

Kinsale, Co. Cork.

Mr. WINTER : I have great pleasure in proposing that that circular be marked "read" without further discussion.

Mr. REAVY : I have great pleasure in seconding that.

The circular was marked "read," Mr. Winter's motion being unanimously agreed to.

MINUTES OF COUNCIL MEETING.

A meeting of the Council was held in the Veterinary College on August 15th, at 4 p.m. There were present Mr. P. D. Reavy in the Chair, Messrs. Dunlop, Heney, McKenny, Watson, Magee.

The minutes of the previous Council meeting were read, confirmed, and signed.

Apologies for non-attendance were received from Messrs. Mahony, Holland, Patrick, Wilkinson, Howard, Chambers, and Profs. Mettam and Craig.

A communication was received from the Munster Veterinary Inspectors' Association, and it was ordered that this be read and considered at the next general meeting.

It was arranged that the general meeting should take place at the Gresham Hotel on Tuesday, 26th August, being the first day of the Horse Show, at 7.30 p.m., and that Mr. Howard, President, be asked to read a paper.

The following accounts were passed for payment :—

H. & W. Brown, reprints	£1	2	6
Brindley & Son, printing	4	7	4
Clerical assistants' half-yearly stipend	5	0	0
	£10	9	10

The minutes of the last Council meeting were read by the Secretary.

The CHAIRMAN : These minutes have to be considered again at the next Council meeting. The Secretary has some accounts to be passed for payment, including £2 2s. for the reporter, and 15s. for the hire of a room in the Gresham Hotel.

New Members.—Mr. PATRICK DOLAN, Belgrave, Seafield Road, Clontarf, was proposed by Mr. Watson, seconded by Mr. McKenny.

Mr. T. F. O'BRIEN, M.R.C.V.S., Falcarragh, was proposed by Prof. Mason, seconded by Mr. McKenny.

BENEVOLENT FUND.

Mr. WATSON : At the last meeting of the Council I was asked to say a few words on behalf of the Victoria Veterinary Benevolent Fund. I resisted the temptation to speak on this subject for the reason that I feel that I am rather acting the part of the hypocrite, inasmuch as it was only this year that it was borne in upon me that I ought to become a subscriber. At any rate, I have got all the zeal of a convert. I think, as an Irishman, there are three characteristics which distinguish Irishmen, they are their lively wit, their love of sport, and their disposition to be benevolent. I have no great belief in the truth of this ; in fact, I would submit with great respect that the Irishman of to-day does not merit these virtues. I think we are living on a reputation earned in the past. I don't think we are as ready witted as were our fathers, I don't think we are as good sports, and I don't think we are as charitable. When a great disaster occurs, and a subscription list is opened for the relief of the victims, if you take the list of subscribers

you will see the number of Irish subscribers on these lists are few and far between. However, that is only a pious opinion of my own, and we have still a few who are imbued with the best traditional Irish characteristics in a prominent degree. In speaking of the work of the Victoria Veterinary Benevolent Association, I think few are aware that it is dealing out something like £52 to people in Ireland, and that at a time when it was not getting half that sum in subscriptions from this country. I appeal to members to be open-handed in supporting this Benevolent Fund. It is not creditable to Ireland that we, at least, do not defray our own debts, and I appeal to every member here to become a subscriber to this Fund, which is a most admirable one, and one that must appeal to all of us.

Prof. O'CONNOR : I am Secretary of the Committee which has been appointed to consider deserving cases in Ireland, and I endorse every word that Mr. Watson has said with regard to this Fund. It is needless to say how deserving it is. Some very pitiable cases come before me ; people in great distress, and with no means of living. It is a charity that members of our profession should support. As Mr. Watson has said, £52 is paid in Ireland to deserving cases, and there are others which require help. The amount subscribed by members of this Association is still small, every member should subscribe something—10s. 6d. makes one a member.

Mr. McKENNY : I am a subscriber to the Fund, and I don't think it right that Irishmen should be belittled as Mr. Watson has just done.

Mr. WATSON : Oh, no, I did not belittle them.

Mr. McKENNY : I say that Irishmen are not degenerating : on the contrary I think we are the same ready wits, the same manly spirited people and the same sportsmen as ever we were. What I do say is that as regards this fund the previous speakers have every reason to judge from the way we treat it that we are not as generous as heretofore, and therefore the charge that we are becoming less charitable would have to be endorsed. I therefore appeal to everyone of you to show that the Irishman is still animated by the same charitable spirit that characterised him in the past. (Applause).

Mr. FRED. HENEY, in response to the Chairman's report, said in urging the claims of the Fund, he was sure that Mr. Watson who had been deputed at the Council meeting to speak on behalf of the Victoria Veterinary Benevolent Fund had lucidly expounded the objects of the Fund and its claims to a liberal measure of support from the members of the Irish veterinary profession. The Veterinary Benevolent Fund had always appealed to him (Mr. Heney) and as long as he was privileged to be connected with that Association and its Council he would urge the claims which this Fund in England had upon the Irish branch of the profession. The case mentioned by Mr. Reavy was a strong example of what Mr. Shipley's Association has done, and is doing for our poor and necessitous brethren. I know of others who have been ably assisted, and I sincerely trust that by the few desultory remarks I have made some members present, not already subscribers, will examine their consciences and see if they cannot give at least 10/6 annually to this most deserving Fund.

The CHAIRMAN : I have appealed to the members on many occasions to help this Fund, and I don't think it needs any further remarks from me to commend it to you. It should be supported generously.

V.M.A.I. MEDAL.

Prof. O'CONNOR : I have to announce that Mr. J. P. Machattie obtained first place in the final examination for the diploma of the Royal Veterinary College, and is therefore entitled to the Veterinary Medical Association of Ireland's medal.

The CHAIRMAN: Is it the wish of this Association that we make an order to present Mr. Machattie with the medal usually given by this Association to the gentleman who obtains highest marks at the examinations?

Mr. REAVY: I beg to propose that the medal be given.

Mr. MAHONY: I second that.

The proposition was carried unanimously.

THE ADMINISTRATION OF CHLOROFORM TO HORSES STANDING.

By P. J. HOWARD, M.R.C.V.S., Ennis.

Long over a year ago our esteemed Secretary asked me to prepare a short paper on the administration of chloroform to horses standing. He says I promised to do so; that is my excuse for attempting to trespass on your patience with this subject.

In this age of motors and flying machines when, according to some people, the horse is fast becoming extinct, it may seem a waste of time and energy to discuss such a subject, but when one considers that a yearling colt can still fetch 5000 guineas in the public market and that 45,000 guineas is paid for a sire, and in fact that a horse is worth as much money as he ever was, and that many such valuable animals come within our domain for various operations, the importance of his care and control during such operations, is well worthy of our serious consideration. Moreover, as a scientific profession we are expected to keep pace with the march of science, and to be ever ready and anxious to take advantage of the most up-to-date scientific methods in the practice of our profession.

Further, the veterinary surgeon is more or less expected to be a lover of horses, and as such to be anxious to adopt the most humane methods as against the crude and barbarous ones often employed. I am not here to discuss any particular operation or form of operation, my remarks apply to all operations requiring the animal to be in the recumbent position.

In the performance of operations on horses one has to take precautions to have the animal under such control as will prevent the possibility of risk to the operator and his attendants, and also lessen the risk of injury to the animal itself; it is only thus that one renders possible operations that could not otherwise be attempted.

It will scarcely be disputed that most, if not all, surgical operations will be much more happily performed if the animal is under the influence of an anæsthetic. There are several useful preparations that induce local anæsthesia, but for all important operations one wants the animal in complete anæsthesia, and the only general anæsthetic for horses, so far, is chloroform.

Now, as I have already said, it will scarcely be disputed that all important operations on the horse in the recumbent position are easier for the operator and ever so much happier for the horse and the person who owns him if he is under the influence of chloroform; and yet the use of chloroform is by no means general in the veterinary profession. Why this should be so, it is difficult to explain, and still more difficult to understand. Of course you are all aware that a Bill is being promoted in Parliament to make compulsory the use of chloroform in certain important operations on the horse, and judging from the columns of our veterinary press, the introduction of this Bill created a scare, and almost a panic in the ranks of the veterinary profession. Members have written to condemn the use of chloroform, who have never mastered the use of it; and who possibly through fear compel themselves to be blind to its advantages.

I rather think that the present restricted use of

chloroform is due to a misconceived and highly exaggerated notion of the dangers supposed to be inseparable from its use. Doubtless those ideas of great danger arose from the experience of the very painful and sometimes prolonged and dangerous struggles that are observed when horses are undergoing the effects of chloroform after they have been already cast and hobbled. By administering chloroform while the horse is standing, there are none of those painful struggles, and the dangers, if any, are reduced to a minimum.

It has been my practice now for many years to give chloroform standing to horses of all ages, and for all operations, and I have never seen any ill results, though I have operated on hundreds of horses and often with very little help and under very adverse circumstances.

I have heard from practitioners of some cases of collapse and death, but the horse that won't stand a dose of chloroform can scarcely be considered a loss, and must be such a very bad case of heart disease that he is better dead.

In general practice one has to deal with untrained or unhandled horses as well as with trained ones, and it is with the wild young ones that this method of administration is particularly useful.

Now I know that some of our great men will, and do, ridicule the very idea of asking a veterinary surgeon to deal with an unhandled horse. They think it is almost *infra dig.*, and they will say a veterinary surgeon must not be a horse trainer or a horse tamer; but without requiring him to be either, I fear that he cuts a rather sorry figure at times if he cannot show that he knows how to handle a horse, or at least direct how it should be done; and it will not take from his dignity either as a man or as a practitioner if he is capable of doing it himself.

Trained or untrained, the horse will always be best in an enclosure, and when convenient in a good sized loose box. He should, of course, when possible be fasted overnight.

With the untrained wild young one the quickest and best way to catch him is with the lasso. Throw your rope on his neck and twist the two ends till it tightens on the neck, or pull one end through a noose at the other end and squeeze. It will take a few good men at times to hold on to the rope; and it is only when almost suffocated that some wild young horses will allow you to lay a hand on their heads.

I find that a good firm grip of an ear will quiet most young ones; but the ear must be held once it is gripped.

You can now put on the cavasson or halter, and if the horse is a very wild one, it is perhaps easier to put on the chloroform muzzle at the same time. I have an adjustable cavasson that fits big and small, and I find it very useful.

My chloroform muzzle is simply a leather bag with a strap to go over the head and with a slit at the side to permit a large sponge. The old one that has done duty for many years is here for inspection and, as you can see, it is not an elaborate affair, and there is nothing that can hurt. The muzzle fits into the mouth and covers the nostrils well. I prefer the muzzle in the mouth as I think it may prevent the tongue being injured by the teeth squeezing on it when the animal is under the influence of chloroform.

But any kind of muzzle will do; in fact anything that will exclude the air and hold a sponge or wad of wool on which to pour the chloroform. I have more than once used a small sack, or made a muzzle by folding a cotton flour sack or towel and tied it on to the head collar.

You may elect to operate in the loose box or outside, as you please, the procedure is the same, and for all horses. There is no doubt that when the box is suitable the horse is quieter and goes under more readily.

If you are to have the horse outside see that your cavasson and lead are sound, and instruct your man not to let the horse get away if he happens to make a plunge.

Having adjusted the muzzle you simply pour the chloroform on your sponge or wad of wool, and place it in the muzzle. For yearlings I always pour on about 2 oz.; for an extra strong or wild one and for a two-year-old $2\frac{1}{2}$ to 3 oz.; and for three-year-olds and for trained horses always begin with 3 oz.

There is little need to measure exactly the amount, you can easily accustom yourself to make a fair guess by noting the amount in the bottle with your fingers. After about three minutes the animal begins to show signs of becoming dazed, the eyes stare, and you will soon notice that he cannot see.

With animals in a loose-box, they seldom move at all, but horses outside may step backwards a few yards, or occasionally try to walk on. Seldom will one plunge, and I don't remember that I have seen one rear, which is the great danger alleged by those who have not tried. Sometimes, just as a horse gets the first sniff, and perhaps before you have secured the sponge, he may plunge, and you may have to get his ear held till you have secured the sponge in the muzzle.

Once the sponge or wad saturated with chloroform is secured in the muzzle, the trouble is over. If the horse is restless, let him walk round in a circle, but don't let him get away; it is at least as easy to hold him now as it would be without the chloroform.

When you notice that the horse is going under, you may now strap up a fore leg; that will generally induce him to kneel down, and in another minute he will lie down, or you may push him over.

I have seen horses lie down in four minutes, and I have seen some not go down for eight or ten minutes, but in no case have I ever seen any struggling after they had gone down, and a horse will lie quietly for seven to fifteen minutes without further restraint. Of course, when the operation is a prolonged one you must administer further chloroform as required.

You may strap up the fore leg before giving the chloroform, but I prefer to do so after I see the horse is getting dazed.

Now as it is necessary in most cases to fix a limb or limbs, so as to keep the animal in a particular position, and as such fixation has to be done with hobbles, I find it is much easier and more useful to put the hobbles on the horse before he goes down. In fact, my practice now is to put him down and not to wait till he lies down; and, further, you can put him down exactly where you want to. I always use the ordinary colt rope, or side lines, and for all horses.

Some horses may, when left to lie down, remain long on their knees before going over, and may even require a larger dose of chloroform, but I find that with the doses I have described, the horse is dazed in three to five minutes, and by putting on your ropes, you can induce him to lie down without trouble, and that once he is down there is no further struggle, and he is fit for surgical operation immediately.

You, of course, leave the muzzle on during operation, and remove it at once when the operation is finished. Remove your hobbles quietly, and let the horse lie as long as he cares to.

When the operation has not lasted more than ten minutes, the horse is generally ready to get up in a few minutes, and when he is on his legs for two or three minutes he is perfectly recovered from the effects of chloroform.

Those after effects that one hears so much about must, I think, exist only in the imaginations of those who have described them. I have never seen any such, and I have had horses down for 40 minutes, and used five to six ounces of chloroform. When the operation

has been a long one, it is best to induce the horse to lie as long as possible. With ordinary care there is little danger from overdose or after effects.

In 1897, at the request of his lady owner, I destroyed with chloroform the celebrated thoroughbred sire "Turco," and he inhaled 11 ounces of chloroform before he was dead.

I have seen a yearling colt gallop and jump a four-foot wall two or three minutes after he stood up from the operation of castration, though he was sufficiently under to be operated on without a hobble.

I have on a previous occasion given the record of a number of cases of colts, one and two years old, for the operation of castration. The average amount of chloroform used was $2\frac{1}{2}$ ounces, and the average time taken with the operation was seven minutes. All those colts were allowed to go under without pulling down with hobbles, and were operated on with the upper hind leg just pulled out of the way with a web lead.

I have castrated stallions up to *fourteen years old*, and have performed various other operations on old horses, and have given all chloroform standing. Under ordinary circumstances, and with ordinary care, by this method you can, with two boys, easily manage an operation that you could not otherwise attempt without six good men.

I do not claim to belong to the brigade of lightning operators, or acrobatic surgeons, but I have castrated a two-year-old thoroughbred colt in his loose-box, given chloroform standing, and did not use hobbles, and was only *eight minutes* on the premises.

I fear I would only bore you with statistics; I have tried to give you a description of the method that has been, with me, a great success. I fear I have not been able to give you a very brilliant, or a very graphic description, but I hope I have given sufficient to dispel from your minds that there is any mystery about giving chloroform to horses standing, and I hope that what I have said may induce you to give this method a fair trial, and I am certain you will be convinced of its advantages.

Who has ever watched a horse being thrown with the ordinary chain and hobbles without feeling that he got a great, unmerciful, unnecessary heave, which made one feel and wish there could be a happier method. And who has watched the struggles of a horse when undergoing the effects of chloroform after he has been hobbled and thrown, and not thought that the horse is suffering more by the process than he may from the surgical operation that he is about to undergo.

Chloroform standing is, I believe, the ideal method; and I am strengthened in that belief by the good accounts that I hear from those whom I have induced to try it. Don't be disappointed with a failure or two, persevere, and get confidence in yourself, and once you get expert in the administration of chloroform you will do away with a lot of hard labour in your work, and you will by its more general use advance the practice of our profession on a scientific basis, and as I have repeatedly said, you will in that way do more to exterminate quackery than could ever be done by Act of Parliament.

Mr. WATSON: In order to relieve Mr. Howard of the dual position of Chairman and Essayist, I beg to move that he do now leave the Chair, and that it be taken by Mr. Holland.

Mr. WINTER seconded the proposal, which was passed.

Mr. HOLLAND having taken the Chair,

DISCUSSION.

Mr. McKENNY: I have very great pleasure, before entering on the discussion, in thanking Mr. Howard for his very able paper, but I would say that it is more than able. It is most unusual, inasmuch as he has come before this Association of scientific men to upset

all theories and all practice that we have known previously, but there may be a large number of practitioners who feel, after hearing that paper read, that our theories and science relative to this subject may be put aside. That, in effect, is what Mr. Howard has told us, and it is a very courageous thing to do. In using chloroform we have always been told that there is a stage of excitement, but, according to Mr. Howard, that stage does not exist in practice. He has also made a new departure in the amount of chloroform to be given. He has upset all theories. But my experience in the use of chloroform does not coincide with Mr. Howard's. I found so much excitement that I am afraid to give chloroform to horses standing. As for instance, I was asked to castrate a stallion—a very wicked brute he was. He kicked a man and broke his arm, and he nearly trampled another man to death. The owner would not allow me to operate without giving chloroform. I had a muzzle something similar to the Carlisle bag. I thought I would make sure that I would give him enough. I gave him four ounces to begin with. The horse, immediately he got the smell of the chloroform, became almost mad. Everybody left the box, but the last man forgot to shut the door, and the horse got out into the paddock. I never saw a horse really mad until I saw that one. He dashed at an iron fence, came back, and dashed at it again, everyone cleared out of the paddock. I got behind a tree. Fortunately I had put a cavesson and rope on the horse, and as he passed the tree I caught hold of the rope and managed to get him down, and got him secured. That horse got four ounces of chloroform, and he did not simply and quietly lie down, as Mr. Howard, who has a much larger experience of this matter than I have, tells us. I have ceased now to give horses chloroform standing. Prof. O'Connor chloroformed three horses in my yard, and it was not our experience that there was no stage of excitement or that the horses did not suffer any after effects. They did not get up quickly, and walk away. One of the horses, one of my own I may add, was three-quarters of an hour after the withdrawal of the chloroform before he became conscious and able to stand. It is my experience that the administration of chloroform to horses while standing is highly dangerous, and that there is a stage of excitement in which they become most unruly, that there is a semi-conscious stage in which they stagger about until ultimately they become unconscious and fall heavily in a helpless condition.

As regards lassoing, I have a great objection to it, as I can never find any one in this country who is able to do it successfully at the first attempt. I have a plan which I find works well, and that is by taking the rope over the backs of other colts, slipping it over the neck of the one you want to secure, and then twisting up the rope until it is tight on the neck. The practice of calling "whoa, whoa," is bad, and I always enjoin silence. I am delighted that Mr. Howard has come forward and has given us his experience. I have no reason to think that he is telling us deliberate falsehoods; there must be something in his method, and I hope that it may be possible for him to give us a demonstration, and perhaps it could be arranged for this week.

As these discussions are intended to elicit our various experience and opinions, with the view of advancing knowledge, with the Chairman's kind permission, I will ask you to consider specially that, although some of the speakers have advocated chloroforming horses standing, yet some of them recommend that when the horse is semi-conscious from the effects of the chloroform it should be hobbled and cast. I ask, why run the danger if the horse is going to lie down quietly? Again, other speakers have told us how they saw horses chloroformed standing. One gentleman described how it was accomplished in a padded room, with a rope on

each side of a cavesson fastened on to the horse's head, and the ends of the rope passed through pulleys on the side of the walls and extending outside the room, so that it could be manipulated as required outside the room, as no one remained inside. Again I ask, if there is no danger in chloroforming horses standing, why take these precautions and go to so much expense?

Another gentleman states that previous to administering the chloroform, the horse should be taken into a large field with a cavesson on his head, and a rope attached to each side of it, so that the animal can be controlled and allowed to fall as desired, in other words, to keep its head straight, fearing that in falling it might break its neck.

Mr. WINTER: I desire to thank Mr. Howard for his innovation. I have administered chloroform to horses on several occasions standing. I have given it in a field and in loose-boxes, and I intend to try Mr. Howard's method some day soon. There are one or two things with which I do not agree. The amount of chloroform is excessive. I use Duncan and Flockhart's. I tried Wellcome's, but I prefer Duncan and Flockhart's. I find two to two and a half ounces quite enough, and I never give more than four ounces for any operation. About operating on colts without sidelines, I would like to know how Mr. Howard would operate, say in the case of a horse where the hock had to be fired. Then another point, I don't think you will get complete anaesthesia without securing the horse. I generally like to have the horse well secured, because you will have a struggle, it is inevitable in cases where you have to perform operations in which you touch large nerves. The animal feels it, and there is always a struggle. I don't think then it is fair to one's insurance company to operate on horses without having them properly secured. For castrating colts, I invariably put on the knee strap first, and slip on the other tackle later. Chloroforming horses out of this world, I think is as slow and terrible a method as ever I heard. A far quicker way is to use the humane killer, and I never saw a horse fired at a second time. It is certainly the quickest way of dispatching an animal. I have had only one death in chloroforming horses, and I have had an unhappy experience in chloroforming dogs. The horse was a three-year-old "rig," bought for some £25, and I was asked to operate. I put the muzzle on the horse, and he was brought out, and the peculiar thing was that in the next three minutes he was dead. A post-mortem revealed the fact that he had one of the most enlarged fatty hearts that ever I saw. Mr. Howard's method is a revolution in chloroforming horses, but I should not like to tackle major operations on horses without having them well secured. It is wonderful how much a horse can struggle, even when under chloroform. I thank Mr. Howard for his innovation, but I should not like to try giving chloroform to horses standing with the assistance of the class of men that one has to put up with on some occasions, or with the owner about, for he would probably get you into such a stage of excitement that the operation would not stand much chance of being successful. My experience is, that the time to get a horse under is from seven to ten minutes for minor operations, and for other operations for which one wants complete anaesthesia, fifteen minutes, but for ordinary operations from seven to ten minutes is enough. A good deal depends upon the chloroform you use. You will not get as good results with a bottle that has been opened and used on a previous occasion, as with a new bottle. You want to buy chloroform in small quantities, and Messrs. Duncan and Flockhart have small stoppered bottles which are admirably suited for the purpose.

Mr. RENEHAN said he had never administered chloroform to horses standing. He had used chloroform for twelve or thirteen years and had never had any trouble.

Col. MOORE (Assistant Director Army Veterinary Services): I wish to thank Mr. Howard for his paper and to support him. To do so I should like to go back 30 years, and bring to notice the man who was the real father of the administration of chloroform in Britain, the late Mr. Roberts, of Tunbridge Wells. Thirty years ago he was a practitioner in Kendal, Westmoreland, and I was his pupil. It was his rule to give chloroform for all operations, and he gave it standing. He did a good many castrations, and it is in connection with these castrations that I should like to say a few words. His rule was to use an ordinary leather nosebag covering the nostrils. This he usually put on in the stable, then led the colts into a field where he manœuvred them. He attached a cart rope at its middle to the ring of the head collar, giving each half of the rope to one or two men with instructions to keep always at right angles to the colt. Chloroform was then introduced into the bag by means of a sponge and as the colt began to sway under its influence the men pulled the rope at either side and the animal went down on the right or left side as desired. At first he found that the animals were not going under the influence of the chloroform quickly enough, but by means of a towel round the top of the muzzle he excluded the admission of so much air, and found they went down much quicker, in fact by this process they were got under the influence of the chloroform in three minutes, and the operation was generally over and the colts on their legs again in about fifteen minutes. Mr. Roberts read a paper at a Veterinary Medical Association at Carlisle on his method of administering chloroform, and shortly after the Carlisle chloroform inhaler was produced and put on the market.

As we all know, Mr. Roberts was a practical man, and I particularly wished to come here to-night and to speak of his methods in his memory. He died, I regret to say, a few weeks ago, and I want to pay this tribute to his memory. I always look upon him as the father of the administration of chloroform to horses standing. He never used any other chloroform but Duncan and Flockharts.

Mr. McKENNY: Was there no stage of excitement?

Col. MOORE: There is generally supposed to be a stage of excitement at the beginning, but if you give the chloroform strong enough, *i.e.*, without the admixture of too much air, you certainly do not get very much of it. Personally I don't think one meets with an excitement stage. It is, at all events, a negligible matter. I have had chloroform myself four times, and I remember on the last occasion, about two years ago, I determined to take notes of its effect on me. However, there was no time for notes. After the second deep breath I was off into oblivion in a moment, and all I can remember was that the line between sensibility and insensibility was most abrupt.

Mr. McKENNY: Do you consider it would be dangerous to cast horses in any other way except the way Mr. Roberts did?

Col. MOORE: I don't think so.

Mr. McKENNY: Why did he do it?

Col. MOORE: It was his custom to do it, and there was less danger in the field than in the loose box.

Mr. McKENNY: Was there no danger?

Col. MOORE: I don't think there was any danger. Chloroform usually affects the hind quarters first, and it is quite common to see animals for a few moments sitting on their haunches and swaying on their fore legs, still on the ground, before finally going down prone.

Mr. THOMPSON: I have only had a limited experience of the use of chloroform given in the standing position, but it goes to show that the danger, if any, is very small indeed. Horses go under the influence quickly without any apparent stage of excitement, and the amount required largely depends on the age and temperament of the animal. The last animal on which I

operated was a thoroughbred five-year-old stallion, and it took the unusual quantity of 5 oz. to put him under. For young colts about 2 oz. is sufficient. In firing horses under chloroform I don't find it necessary to secure them very much. A few months ago I fired the hind fetlocks of a horse without putting a single rope on him; and during the whole operation the horse never winced once.

As to lassoing horses, Mr. Howard has described his method, which is the one usually adopted in this country. But I remember having seen a very ingenious way of catching young horses in England: that was a staff about twice the length of the ordinary walking stick, with a crook at one end on which a halter with a long shank was fixed, and slipped over the colt's head.

Mr. O'BRIEN (Falcarragh) said he had been with Mr. Howard, and it was remarkable how easily he put horses over. There was absolutely no trouble, and no excitement. There is one case of which Mr. Howard might have told them. He was asked to castrate a three or four year old colt. It was a very vicious animal. It was got into a loose box and when Mr. Howard arrived there was not one about to help him. The owner went off to get help, the farm hands being at work at a place about a mile off. He was a long time away and when he returned he found that Mr. Howard had the animal castrated. That is only one case, but there are a great many others similar.

Mr. HARE thanked Mr. Howard for his excellent and interesting paper; he would like to support Mr. Howard in all he had said, but he had sometimes had cases which were not all plain sailing. He considered it the ideal method for castrating colts. He had experienced some difficulty at times in getting the muzzle on. Some thoroughbred colts will fight freely with their fore feet and rear, but after getting the sponge introduced there is usually no further trouble. He considered it most important that the colt be not allowed to get up too soon after the operation, as he had seen one or two cases of hæmorrhage which he attributed to this. With older horses he would prefer to cast first before giving the chloroform. With colts his experience is that some stand quite still after the sponge is introduced, until they begin to stagger and gently subside, others will walk or trot round, stepping very high. Sometimes they will run backwards, and then it is necessary to guard against their falling into a ditch; this is easily avoided by the man or men holding the rope attached to cavesson, manœuvring so as to get between the colt and the ditch. With regard to the muzzle, the one he uses is similar to Mr. Howard's, but has a perforated cap which holds the sponge in position. He thinks the perforations are a mistake, as the colt gets too much air and there is a waste of chloroform. For firing, he always casts before administering chloroform, but he will certainly give Mr. Howard's method a trial in this respect.

He was greatly impressed with Mr. Howard's paper, coming, as it does, at a time when this matter is being brought so forcibly before the profession.

Mr. MAHONY: I must join with those gentlemen who have already spoken in thanking Mr. Howard for bringing forward such an able and interesting paper; we are all very much interested in it. I have used chloroform and I must confess that I have always found a certain amount of excitement before the horse went under. Some time ago I had a conversation with Mr. Howard about giving chloroform standing, and as I always value very highly any advice coming from him, I determined in giving it standing. I had an opportunity shortly after in trying it, and I must say the method strikes me as very simple; as Colonel Moore stated, the animal sits down on its haunches, and there is not much trouble in getting him down completely. I may say that I cast one animal in a large box without any difficulty. I agree in giving a good dose to commence with; I find there is

less excitement as the animal goes under the influence immediately. The hobbles should be put on when the animal is down, as there is a certain amount of risk putting them on before the administration of chloroform.

Prof. O'CONNOR: I wish to thank Mr. Howard very much for his excellent paper. I heard that Mr. Howard was a past master in the art of administering chloroform in the standing position, and I thought it would be a splendid idea to get a paper from him on the subject. I am very glad he acceded to my request to give us one. I would, of course, prefer to see a practical demonstration of the method, and I think we may be able to arrange for one later on. I administered chloroform standing several years ago to a horse that I was about to destroy. I used a modification of the Carlisle muzzle, and gave about 4 or 5 oz. of chloroform. The animal went under it almost immediately and dropped to the ground completely anaesthetised. Recently I adopted this method for horses about to be operated upon, and found it did not answer so well. In one case the horse became terribly excited, reared, buck-jumped, and lashed out, clearing all the students out of the operating theatre. I feared that he might go through a window. We thought it safer to cast him before going further with the anaesthetic.

In another case the horse, after getting the muzzle on, persisted in rearing and striking out with the fore-feet when any person approached to put more chloroform in the muzzle. In this case also I considered it better to cast the horse at once with the ropes. In a third case the horse meandered about for a long time before falling.

But I believe the explanation of these apparent failures is that the dose administered at first (2 to 3 oz.) was too small, and that sufficient air was not included.

In each case I had a rope about 60 feet long tied at its middle part round the horse's neck, and held on either side by assistants to control the animal and prevent him going too much one way or the other. I would be afraid to try this procedure in a loose box for want of space, and for fear that the horse might fall in some awkward position, or injure himself against the manger.

When about to destroy a horse for surgical demonstrations I give an intravenous injection of a solution of about $\frac{1}{2}$ -oz. of chloral hydrate, and the animal goes down completely anaesthetised almost immediately. The objection to adopting this method in other cases is that the chloral is likely to cause phlebitis. I may say that an excellent way of destroying cats and dogs is to pour a little chloroform into the nose. It causes death in a very short time, much more humanely than by prussic acid, there being no spasms which are so unpleasant to observe in death from prussic acid.

Mr. MACCANN: As one who gives chloroform standing for the purpose of castration, I can speak from practical experience. Those who are opposed to or are sceptical about the method have either been scared after their first attempts or been afraid to experiment so as to get a proper average amount of chloroform. At first I used an insufficient dose and the results were not satisfactory. There was a distinct stage of excitement, and anaesthesia was not complete. I only used one and a half ounces. Later I increased to two ounces, for the yearling, and found that a couple of minutes after the sponge had been inserted into the muzzle the colt was ready to go down. Some colts stand stock still. Some trotted round with exaggerated action like, that of a hackney; while others walked backwards or forwards a few steps; gradually they lose balance and sit down on their haunches, when a little push sends them over.

With regard to catching the colt, the method I adopt is that suggested by Mr. McKenny. Having got the colt into a stable, I take one end of a long rope, an assistant takes the other end: one goes on each side; the rope is carried up along the colt's back and over

the neck. The two ends are then joined and twisted until tight. Get a man to hold the tail, that generally "knocks the stuffing out of him." In most cases the greatest difficulty is experienced in getting on the muzzle. The muzzle I use is Cox's, with a rope attached to the head collar, there is little difficulty in taking him to the field. Once there, I get the colt into the centre of the field; the assistants get round him. The sponge, wrung out of hot water, is saturated with chloroform and inserted into the muzzle. I have explained the course of subsequent events. I find that the shock of the chloroform knocks all the fight out of the horse: I never saw a colt become excited after I had used the proper amount.

When the colts are regaining consciousness after the operation, I have the halter or head collar on so that they may be steadied on rising. After rising they are inclined to wobble a bit. I have never had a colt gallop away after getting up.

Mr. Howard is to be congratulated on his paper, and the valuable information which he has placed before the meeting.

Mr. REAVY: I wish to join with the previous speakers in thanking our President for his very able paper. I have no practical experience of chloroforming standing, but I would like to ask Mr. Howard if he finds that thoroughbred colts are worse to handle than colts of other breeds. I would imagine that a heavy horse would go under quicker than thoroughbred colts. With reference to the case of death from heart disease—it is a good many years now since I was in college, but we were always taught to examine the heart before giving an anaesthetic.

Mr. HENEY said the discussion had been most interesting. This year, during the castration season, he was called upon to operate upon a four year old horse that had served 21 or 22 mares last year, he was a big, plain, useful sort. He administered chloroform standing, the operation being performed in a paddock, using a muzzle somewhat similar to that shown by the President—giving about three ounces, he had no trouble with the horse, going down quietly just as had been mentioned by Mr. Howard and others to-night; there was no trouble in controlling him, and he has worked well ever since. As regards Prof. O'Connor's method of destroying small animals by pouring chloroform down the nostrils, I have never adopted such a course, but I would commend him the use of hydrocyanic acid (Scheeb's) injected into the thoracic cavity, which is almost instantaneous in action. The use of chloral hydrate, in many cases, I have found more satisfactory than chloroform from the point of view that there is no excitement nor bad results. I tender to Mr. Howard my hearty thanks for his interesting practical paper.

A MEMBER: The only experience I have of chloroform being administered to horses standing was as an onlooker. I happened to be in London recently and at a yard there I saw it being administered to a horse. The box was lined with cocoa matting. There was a halter on the horse and ropes by which he was prevented from going too far forwards or too far backwards, and with the way the horse was being controlled by the ropes I saw there could not possibly be any accident. I did not wait to see the operation.

Mr. HOLLAND: Before calling on Mr. Howard to reply, I also would like to thank him for bringing forward such an excellent paper. It has given rise to a lively discussion. Mr. McKenny has some doubt about the excitement, but I think Mr. Howard made it clear that in some cases there was a little excitement. I want to make a remark in regard to the purchasing of chloroform. Messrs. Duncan and Flockhart give two forms of it, one in a blue labelled bottle at a lower price, which I find is equally as good as their other. I have implicit confidence in Mr. Howard, and when he made

the suggestion to me about chloroforming standing I adopted it immediately. I met two cases where there was excitement. Mr. Howard also explained to me that it was best to use a double rope and to manœuvre the horse into position. I generally put on hobbles when the animal is nearly under the influence, and when he is just about to fall, pull him down. Mr. Hare speaks about horse galloping away and falling after getting up and the difficulty of getting the muzzle on owing to horse striking with the fore feet. I think that might be got over simply by covering the eyes before putting on the muzzle, and by leaving the eyes covered until you are satisfied that the animal is safely from under the influence; he will lie quietly and be able to stand all right when allowed to rise.

So convinced am I of the necessity of conserving our interests in these days of wholesale quackery, I am a little discreet when using chloroform, and label it so that I may not enlighten every onlooker as to what the bottle contains. I generally use the small bottles, and I find them sufficient, and they give better results than if you purchase chloroform in large quantities. This paper which Mr. Howard has contributed is only one more to the many benefits that he has conferred upon this Association, not alone since he became its President, but also during his many years membership. (Applause).

Mr. HOWARD, in replying to the discussion, said: I have first of all to be very grateful for the hearing that you have given my paper, and the words of appreciation which have been spoken for my bringing forward the subject. It has been a great pleasure to me to bring it forward. I should like to remind you that this is not the first occasion on which I have discussed with you this question of the administration of chloroform standing. A few years ago I gave you statistics relating to the number of cases. As regards Mr. McKenny's experience, the men, he tells us, ran away and left the door of the box open, and the horse got out. Well, what did they expect? Medical men, when administering chloroform to a human being, see that he is under proper control. He is either strapped to the bed or to the operating table, and if that is necessary in the case of a human being, is it too much to expect that in the case of the lower animals care will be taken to see that the patient is not allowed to go and destroy himself. About this stage of excitement—we know from the history of giving it to human beings that people under its influence act in a fantastic way sometimes. Mr. Winter asked me how I secure a horse when operating on the hock. My experience is that for most operations, including firing, you only want to hold up one of the legs, and then do whatever has to be done. For yearlings and two-year-olds you only want someone to hold the upper leg out of the way, unless you have some other method, or stand contemplating half-an-hour whether you will do the job at all or not. When Col. Moore started to speak, I thought I was going to get a slaughtering, but his experience practically confirmed what I had said. I don't claim to be the pioneer of giving chloroform to horses standing, but I do claim to be the first in Ireland to put on record the result of my work in this connection, and to come before this Association and give them the result of my experiences. My friend and pupil, Mr. O'Brien, has mentioned to you a case which I did not intend to refer to. A client of mine, Col. W., had a three-year-old colt. He was a perfect savage. The Colonel asked me to castrate, and I arranged to do him, and wrote telling him the day I would be in the district, and to put the colt in the house. He replied and told me that they had got the colt in the house, but had not been able to get a cavasson on him. The appointed day came, and when I arrived at the Colonel's there was no one there to help me, the farm hands being at work about a mile away. The Colonel

himself went off to get help, and as he was a long time away I began experimenting with the colt myself. He was in a box about ten feet square. A very small boy, a messenger, came along, I put a rope on the colt and gave it to the boy to hold outside the door. After manœuvring with a long stick I managed to get hold of one of the colt's ears, and put the muzzle on him. I gave him about three ounces, and he never moved until he lay down. I castrated him with only the little boy to help me, and when I was ready to go home the Colonel and the helpers arrived on the scene.

As regards the practice of operating in the house or in a field, some people still have doubts. They think there is danger in the box, but with even untrained colts there is practically no danger if you have a box 10 feet square, or one 10 feet by 12, provided, of course, you take reasonable precautions to have the colt under control.

A MEMBER: A box without a manger.

Mr. HOWARD: With or without a manger. In the springtime, when the ground is wet and the weather cold it is perhaps just as pleasant working in a box as in a soddened field or paddock. I am particularly pleased and delighted with the remarks made by some of the older practitioners, who are, I may say, disciples. Mr. Mahony and Mr. Holland, at my request, made the experiment, and they are so pleased with the result that they are going on with it. Mr. Nolans, of Birr, was asked by me to-day if he would go back to the old method of first casting a colt or horse and then giving chloroform. His reply was:—"You have been driving a motor car for some time, and you find it much quicker and easier to get through your work than driving a horse for 60 or 70 miles, would you go back to the old way? I would as soon give up my motor as return to the old method. I can get through my work much faster and with a great deal more ease." That, I think, is practical proof of the advantage of giving chloroform to horses standing. Mr. McKenny stated that I promised to give a demonstration at his yard and had not done so yet, and Mr. O'Connor also expressed the hope that I would give a practical demonstration. Well, if arrangements can be made, I shall be happy to give the demonstrations, but I won't guarantee anything, for the case that you would want to make a success of might be the one that would give you trouble. But my experience is that 95 per cent will give you no trouble.

There seems to be a great difference of opinion as to length of time which should elapse before a horse is allowed to get up. As a rule horses which go down quietly recover equally quietly. My experience is that five or six minutes is long enough to keep a horse down after the operation. The reason why Turko was destroyed by chloroform was at the request of his owner. Turko was the property of Mrs. —, and she requested that he should be destroyed that way. I never gave chloroform to a horse before for the purpose of putting it out of this world, and I approached the task with some misgiving. I gave him four or five ounces before he went down, and he consumed eleven ounces before he was dead. Therefore there is not much danger in giving a strong colt three or four ounces.

Then, as for the danger of excitement which exists in some people's imagination, we all know that some people will talk and even lecture on subjects, but if they had to put their own theories into practice they would not make much of a hand of it. The reason why some people talk about excitement is, they have heard of it, but they have no practical experience in giving chloroform to horses standing and have not courage enough to persevere until they have overcome the difficulty. I thank you, gentlemen, for your kind attention.

Mr. McKENNY proposed a vote of thanks to the essayist for his paper. Mr. Howard himself and Col. Moore both said there was no danger in giving chloro-

form to horses standing, and yet they always take precautions against risks. The result of the discussion and Mr. Howard's reply shows that in some cases there will be a stage of excitement.

Mr. REAVY seconded the motion, which was passed unanimously.

On the motion of Mr. Mahony, seconded by Mr. Winter, a vote of thanks was passed to Mr. Holland for presiding.

The proceedings then terminated.

J. J. O'CONNOR, Hon. Sec.

LINCOLNSHIRE AND DISTRICT VETERINARY MEDICAL ASSOCIATION.

A meeting was held at the Albion Hotel, Lincoln, on Thursday, October 9. The President, Mr. C. W. Townsend, F.R.C.V.S., of Long Stanton, Cambs., in the chair. Also present: Messrs. T. B. Bindloss, Long Sutton; R. W. Clarke, Wragby; W. W. Lang, Ulceby; D. Cooper, Saxilby; C. Hartley, Lincoln; T. Hicks, Sleaford (hon. sec.); A. J. Hines, Grimsby; T. J. Keall, Gainsborough; A. D. Lalor, Sleaford; Geo. Lockwood, Peterborough; H. Leach, Boston; A. R. Routledge, Louth; T. A. Rudkin, Grantham; H. C. Taylor, Caistor; and H. P. Lewis, M.R.C.V.S. (Assistant Veterinary Inspector, Sheffield), who had kindly promised to give a demonstration on tuberculosis in carcase and in milk.

Apologies for absence were received from Messrs. A. Comerford, W. W. Grasby, F. L. Gooch, Abbots, B. A. Searby, of Ramsey; and Hy. B. Eve, of Folkestone, a former member, who sent photographs of tuberculosis in the udder and in various forms.

The PRESIDENT said that he felt sure it was the wish of the members present that the Secretary should write Mr. Eve acknowledging the photographs, and thanking him for his kind wishes for the meeting, and also for so kindly sending the photos.

Mr. HARTLEY apologised for the absence of his son, who was ill in bed with influenza.

The PRESIDENT said he knew it would be the wish of the members to convey to Mr. Hartley, jun. their sorrow at his illness, and to express a hope for his speedy recovery.—Mr. Rudkin seconded, and it was carried.

Mr. LANG, of Ulceby, an old member who had been to Wales and come back to Lincolnshire, was re-nominated by Mr. Tom Hicks.—Mr. Cooper seconded, and Mr. Hartley supported the nomination.

INSURANCE COMPANIES FEES.

The PRESIDENT said this matter was brought up at the last meeting, and he might say that from a meeting in London which he attended on the subject, at which a deputation was appointed to wait on the managers of the principal Insurance Companies, nothing definite had resulted at present. He did not think they could discuss it until after their Secretary had heard more about the matter, or in other words he himself thought the matter might rest, pending the result of that deputation.

Mr. RUDKIN proposed that it be left over until the deputation had reported.

Mr. CLARKE seconded, but thought the deputation would do more harm than good because the Insurance Companies could not afford to pay more, and they were taking animals without examination, and practitioners were losing the small fees they had been formerly getting.

The PRESIDENT: Yes, but for animals insured for £400 or £500 they certainly should give us a larger fee than we are at present getting.

Mr. RUDKIN: They cannot afford much for a £40 mare.

Mr. HARTLEY: For a £40 or £50 animal I should accept the present fee, but where an animal is valued at £400 or £500 I should expect more.

VETERINARY INSPECTORS' SCALE.

The Hon. Sec. said that Mr. Theo. C. Toope, of Dover, the Secretary of the Southern Branch N.V.A. in his letter to him, said:—

"I also note a scale of fees to veterinary inspectors published in last week's *Veterinary Record* as paid in the Holland division of your county. Surely this cannot be in force? They are, as reported, about the worst in England, and a disgrace to us."

Mr. BINDLOSS: We are paid on the old scale, 5/-, and 3d. per mile, and I have to carry a Police Inspector with me.

Mr. RUDKIN: You cannot hire anything for 3d. a mile.

Mr. BINDLOSS: And our inspector weighs 18 stone. (Laughter).

Mr. ROUTLEDGE: They only pay us 3d. per mile.

Mr. HICKS: I get 1/6 with the inspector.

Mr. HARTLEY: There is a new scale coming out for the Lindsey Division. Threepence a mile ought not to be accepted.

Mr. RUDKIN suggested that a letter should be written to the Clerks of the Holland and Lindsey County Councils calling their attention to the inadequacy of the fees paid under the Tuberculosis Order.

Mr. HARTLEY: Lindsey are suggesting two guineas for an examination, and a mileage of 3d. for every mile completed. That is inadequate.

Mr. RUDKIN: Threepence is ridiculous. You cannot hire a dog cart for that.

The PRESIDENT: In the County of Cambridgeshire we appointed a deputation to meet the Executive Committee, and after pointing out the amount of work and responsibility we incurred in carrying out the duties of the Tuberculosis Order and other contagious diseases they gave us practically all we asked.

After further discussion, it was decided that the Hon. Sec. write to the Clerks of the Lindsey and Holland County Councils pointing out the inadequacy of the fees and rate of mileage, and asking for the adoption of the scale agreed to by the National Veterinary Inspectors' Association, and which appeared in *The Veterinary Record* for May 3rd last.

PRESIDENTIAL ADDRESS.

Mr. C. W. TOWNSEND, F.R.C.V.S.

Gentlemen,—When at the annual meeting of this Association in February last, the members present bestowed upon me the greatest honour it was possible for them to confer upon any member of this Association, I must confess that your kind invitation to fulfil this position came upon me as a great surprise. Although it falls to the lot of the majority of the members of a veterinary Society to occupy, at some period of their membership, this honourable position, yet I can conscientiously say that I thought the time was far distant when I should be the one chosen to fulfil this post of President of your Association. Since you have elected me as your President for the ensuing year, I can assure the members that in carrying out any duties entrusted to me I should do so to the best of my ability, and I trust that in occupying the position of President the members will accord to me that same support and kindness which they have shown, not only to my predecessors, but also to myself for the past four years in the post of Secretary.

In addresses of this kind it has been the custom in recent years to make a few remarks upon the more important present day topics relating to our profession; before doing so, however, I would like, with your permission, to make a few remarks upon the affairs and past doings of this Association.

Having had the pleasure of acting as Secretary of your Association for the past four years, and having been a member for eleven years, I may say that during that time I have watched the progress made, and also taken great interest in the work done by this Association. I well remember at an annual meeting, held some four years ago, there was much discussion as to whether this Association should continue or not, the reason of this being not the dearth of existing members, but because of the few number of veterinary surgeons who attended the meetings, and the consequent lack of interest shown. For some reason we used then to see the same members present continually at each meeting, whilst on the other hand several members seldom or never put in an appearance—a state of things which did not tend to make the meetings very attractive, nor was it encouraging for those who regularly attended.

There certainly may be occasions when one cannot possibly get away from home, but since only three meetings are held in a year, I do honestly think that each member might, with very little effort, get to at least one meeting every year. However, gentlemen, I am very pleased to say that the attendances at meetings held recently have very much improved—a condition which I trust will continue to exist. I hope, also, that the membership of our Association, which now numbers nearly fifty members, will, with the co-operation and help of each individual member, also continue to increase year by year.

There are, no doubt, many ways by which not only can each member greatly assist in making this Association successful, but, each member can also contribute considerably in making our meetings enjoyable and attractive—perhaps most important of all is, by regularly attending the meetings. There also seems to be a slackness on the part of members of contributing papers, and I hope that a hint in this direction will have the desired effect, and so make the work of our new Secretary somewhat easier.

I think each member might do his best to obtain new members from the particular district in which he resides; I myself would like to see more Veterinary Surgeons of this County join our Association, for when one looks through the list of our members, only about one-half reside in the County of Lincolnshire—a fact much to be regretted.

Clinical specimens and cases of interest should always be brought forward whenever possible. These not only add to one's knowledge, but generally give rise to a discussion from which we can learn something useful to us in our every-day work. Speaking of discussions, I hope each member will, whenever possible, contribute to them, relate his own experiences, and express his opinions upon the subject chosen. This not only will add to our own knowledge, but it will also tend to make our meetings more sociable and enjoyable for all, and will help to promote that good feeling and fellowship which is one of the chief objects of our Association.

I would like to remark upon a few of the more immediate topics relating to our profession, although it is impossible in an address of this kind to refer at length to any except those that concern us closely at the present time. Perhaps the chief topic which is occupying our minds just now is the Tuberculosis Order. Since the report by the latest Royal Commission on Tuberculosis proves that the bovine type of tubercle bacilli is undoubtedly the cause of certain cases of tuberculosis in the human subject, it is hoped, that by carrying out this order that we shall, in the course of time, assist consider-

ably in reducing the mortality, and the frequent disability and disfigurement that this type of the disease causes annually in the human subject.

In carrying out the duties of this Order, there is no doubt that a considerable amount of responsibility is placed upon us, but I vouchsafe to say that the veterinary surgeon of the present day is eminently fitted for carrying out the duties in connection with stamping out this and other contagious diseases. Our past record in exterminating contagious diseases, when we have been given an open hand, fully justifies me in making this statement, and this new Order should further enhance our reputation with agriculturists and the public generally.

As the Order at present stands I, personally, do not think it will entail a great amount of work on our part—this has been my experience in connection with the amount of work I have had since the Order came into force, for although the Order only includes two types of the disease, I think we may rest assured that the Order will not remain as it now stands very long. Further clauses and restrictions will no doubt be forthcoming, and in conjunction with the work, that the Milk and Dairies Bill will, in time give us, must increase considerably our work before many years.

A suggestion has on more than one occasion been put forward that the duties of this Order, and in connection with other contagious diseases, should be done by all time men; I certainly fail to see why this should be the case. I am strongly of opinion that the curriculum and teaching of the present-day student renders him fully competent to carry out any work of this kind. In fact, when public health work is concerned, I maintain that no one is better fitted to carry it out in safe-guarding the spread of disease from animals to man than the veterinary surgeon. Moreover, a neighbouring veterinary inspector coming into one's private practice does not, in my opinion, tend to add to our reputation in the eyes of clients, and I think that each veterinary surgeon should have his own share of the work, both in carrying out this Order and other duties met with in connection with outbreaks of contagious disease.

The Amendment Bill is an important measure that has for some time engaged the attention of our profession. Although there has been a good deal of opposition to certain clauses contained in the Bill, yet, I think at the present time the great majority of us hope that the Bill will eventually become law. Not only must this Bill benefit us in several ways, but until this Bill is passed, or the College by some means put on a sounder financial basis than it is at present, we, as veterinary surgeons, cannot hope to get that advice and assistance in those important matters from the Council we would like to have.

Speaking of financial assistance, I certainly do think that the Government of this country might not only assist our College financially by making increased grants, as is done in other countries, but that they might also give greater financial assistance than is at present given in carrying out research and other work. Not only agriculturists but the country as a whole would be benefitted thereby.

The Animals Anæsthetics Bill is another important measure that is before the profession and has been discussed at considerable length in our weekly journals, in which discussions, I must confess, I was one of the first to take part. I still strongly maintain that before such a measure as this was brought forward its promoters most certainly ought to have sought for advice, either from the Council of our College or from some of the prominent veterinary practitioners. The Bill as at present drafted certainly seems to me to be a much more rational measure than it was when first brought forward, but it still requires modification before it will meet with my favour.

I take it, gentlemen, that as a profession, we consider it our duty to alleviate the suffering of dumb animals whenever possible, and we, by experience, should know when it is necessary to administer an anaesthetic or not in any operations we are asked to perform. I maintain that if this Bill is passed, as no doubt it will be at some future date, even in those operations included under the Bill, the veterinary surgeon should, in certain instances, be allowed to exercise his own discretion as to the administration of an anaesthetic.

The International Congress of Veterinary Surgeons, as you are all aware, is to be held in London next year. In carrying out the duties entailed by the holding of this Congress much work has to be done, and much money is needed. Other countries have, we are told, subscribed and made grants towards carrying out the work of this Congress when it has been held in foreign countries. Our own country is not so fortunate in this respect, and as a profession, and as Englishmen, we, I feel sure, will not be behind other countries in making the Congress as successful as it has been when held elsewhere. I hope, therefore, that each individual member of this Association will do his very best by subscribing towards the funds of this Congress.

As regards the future of our profession and the work done by the veterinary surgeons at the present time, I think we all agree that the work we are now called upon to perform is of a totally different nature from what it was twenty years ago.

Several factors are responsible for this change; perhaps the most important is the advancement of education. The knowledge possessed by the general public at the present time, both in the trivial ailments of animals and in matters connected generally with the prevention of disease, is considerably greater than it was even a dozen years ago.

Again, outbreaks of disease are much less frequent than they were; this, I consider, is chiefly owing to improved sanitation. Many of those contagious diseases which were rampant years ago are now exterminated owing to our increased knowledge and skill—a fact which we should be proud to relate.

Advance in motor traction has already diminished, and no doubt will continue to diminish the number of horses required for heavy traction work, and this is a serious factor to be reckoned with where town veterinary surgeons are engaged.

I have mentioned merely a few instances which suffice to show that not only has the nature of our work changed considerably, but that where the services of the veterinary surgeons were at one time frequently requisitioned, they are now no longer required. On the other hand, one must agree that although the nature of our work has changed, and in many ways decreased, yet, fortunately for us, it has in several ways increased. Perhaps no other branch of work in which the veterinary surgeon is now engaged, has made such rapid progress as the practice of canine and feline surgery, which now forms a considerable part of our every-day work.

We also gladly welcome the increasing recognition by the public of our services in any work in connection with public health, and I may here say that the recently passed Tuberculosis Order gives us yet another opportunity of demonstrating our abilities in this direction.

The improvement in the breeds of pedigree stock is a matter that should concern us, for I understand that appointments have recently been made in this branch of work.

I understand, also, that the number of graduates annually entering our Colleges is on the decrease, a fact that must in years to come make more work for the present veterinary surgeons.

Other branches of work which I have not yet mentioned must in time form a considerable part of our daily work; particularly would I like to mention the

subject of meat inspection, for although in my opinion this work should be carried out only by veterinary surgeons, I am sorry to say this is frequently not the case. However, we hope the time is not far distant when each town will have not only its own Public abattoir, but also its own meat inspector, for I consider that the knowledge and teaching of the veterinary surgeon at the present day renders him specially fit for undertaking this work.

I think, gentlemen, from the remarks I have made we may conclude that although our outlook is perhaps not so good as it was some years ago, yet it is not so bad as we are frequently apt to think it is; therefore, although our work has changed, and in some ways diminished, yet we should be thankful that it has increased, and we trust will still continue to increase, in many others.

Mr. HARTLEY moved, seconded by Mr. Taylor, that the President be cordially thanked for his address, and he felt sure it was the wish of the members present that it should be placed on the minutes of the meeting and duly published.

Mr. RUDKIN had much pleasure in supporting Mr. Hartley's resolution.

DEMONSTRATION ON TUBERCULOSIS

By Mr. H. P. LEWIS, M.R.C.V.S., Sheffield.

The PRESIDENT said that before adjourning to Mr. Hartley's yard for the demonstration, he would like, on behalf of that Association, to thank Mr. Lewis for so kindly coming there that day, especially would he himself like to thank him for coming there at such a short notice. Perhaps the members did not know, and he would therefore like to inform them that only three weeks ago their Secretary wrote informing him that he had no promise of any paper for the present meeting: so therefore the members must think themselves very lucky in obtaining the services of Mr. Lewis when such short notice had been given him.

Mr. HARTLEY: I would like to ask who obtained the services of Mr. Lewis.

The PRESIDENT: I think, sir, I may take the credit of having done this, or perhaps I ought really to say that our Secretary wrote Mr. Lewis, but it was at my suggestion, and I may here say I was put into communication with Mr. Lewis through Prof. Reynolds, of London.

Mr. HARTLEY: I think it was very good of you to do this.

An adjournment was then made to Mr. Hartley's commodious premises, where Mr. Lewis gave a most interesting and instructive demonstration upon the examination of milk, and also showed the members the position and relation of the common tubercular lesions met with in tuberculosis of the pig.

The following is a synopsis of Mr. Lewis' remarks.

Collection of Samples of Milk. The greatest care should be taken to ensure that the bottles and instruments which have to come in contact with the milk should be sterile before use. Corks should be good fitting and preferably rubber. The udder should be wiped with a cloth damp with some antiseptic solution. The sample bottle should be held, and the milk drawn into the bottle in the manner illustrated, and minimise the possibility of introduction of dried faecal matter detached from the udder. The importance of careful attention to the foregoing will be appreciated when it is realised that the chief source of error in diagnosis is likely to arise from contamination of the milk, as there are several known acid-fast organisms other than *B. tuberculosis*, but which are not pathogenic to the cow, and therefore only gain entrance to the milk when contamination has taken place.

Preparation of the Film. Considerable attention must be bestowed upon the preparation of the film. It is important that films should be thin in order to minimise the time necessary for decolorization. It is true that the tubercle bacillus will usually retain the fuchsin stain after a lengthy exposure to the decolorizing acid. Cases of tuberculosis of the udder are not infrequently met with, however, where the disease has been in existence a considerable time, and for which a strain of tubercle bacilli of low virulence is responsible. In such cases the bacilli may be partially or completely decolorized if subjected to the prolonged action of strong acid.

Opinions are divided as to the best method of preparing the film, and at the present time there are several methods in use. I intend to describe briefly two methods which are in more general use, and to give you an illustration of a third, which I have myself adopted for a number of years with very great success. It has advantages over the others in that it is simpler, less expensive, and gives more accurate results. It also takes up much less time, and it is seldom necessary to use a centrifuge.

The first method to be described is that in which a bleaching agent, known as "Antiformin" is used. This agent owes its action chiefly to the chlorine it contains in the form of chlorinated soda. The chief object to be gained by its use is the destruction of all acid-fast bacilli which may be present in the milk, with the exception of *B. tuberculosis*. A portion of the milk representing 35 parts, is added to 15 parts of "Antiformin," and 50 parts of distilled water. The mixture is then agitated for a few minutes, and afterwards centrifuged, or allowed to stand for an hour or two. The sediment is then transferred to the glass slide and fixed. Considerable care and attention is required in the fixation, otherwise portions of the film are washed off in the subsequent process of staining and decolorising. The film is afterwards stained in the usual way.

The second method is a modification of the preceding, and consists in the addition of a portion of the milk representing two parts, to one part "Antiformin," and agitating the mixture for five minutes. To the above mixture is next added Methylated aether and Acetone, in equal quantities representing one part. This mixture is again agitated and allowed to stand until there is a division into three distinct parts. The middle layer is a whitish opaque liquid, and is said to contain the bacilli in large numbers. A portion of this layer is pipetted off, and transferred to the slide. Fixation and staining is then carried out as in the previous method.

Mr. Lewis next illustrated another method by preparing a slide from milk which he had obtained from a case of tuberculosis of the udder; the various stages were described in detail. During the time occupied by the Ziehl-Neelson staining, some of the characters of tuberculous milk were discussed, and as the sample under examination clearly showed, such milk was not always of a watery character; on the contrary it appeared to be abnormally rich in cream.

The slide having been finished was then examined microscopically by the members, tubercle bacilli being plainly demonstrated.

Mr. Lewis also brought for inspection about three feet of the small intestine of a cow, showing numerous tuberculous ulcers; microscopic preparations from the ulcerated bowel, and of bovine tuberculous sputum were also exhibited.

The members were afterwards shown over the lymphatic glands in the carcase of a tuberculous pig.

On returning to the Albion Hotel, Mr. Hartley proposed a vote of thanks to Mr. Lewis for his kindness, and the ability he had shown; the demonstration had been most interesting.

Mr. GEO. LOCKWOOD seconded, and said that at the same time he would like to thank Mr. Hartley for the use of his commodious premises.

Mr. HICKS seconding this, both votes of thanks were adopted.

Mr. HARTLEY, in reply, said his premises always had been, and always would be, at their disposal. A little practice was always a good thing, and created interest in their meetings.

Mr. LEWIS said he was never more happy than when giving assistance to his colleagues, and he hoped to be present at the Lincolnshire Association's meetings again.

Before dispersing, the President said he would like to inform the members that at their next meeting, which was the annual one, and which, as they knew, would be held at Grantham, Prof. Reynolds, of London, had very kindly promised him to give a surgical demonstration upon some operation in the dog, and he hoped, therefore, as many members as possible would be present.

T. HICKS, Hon. Sec.

Royal College of Veterinary Surgeons.

SPECIAL MEETING OF COUNCIL.

A Special Meeting of Council was held at the Royal College of Veterinary Surgeons, 10 Red Lion Square, London, W.C., on Tuesday, Oct. 21st. There were present:—Mr. J. H. Carter, President, in the chair; Messrs. Banham, Barrett, Col. Sir F. Duck, Dr. McCall, Sir John M'Fadyean, Messrs. Mulvey, Price, Maj.-Gen. Pringle, and Mr. Fred Bullock, Secretary.

The minutes of the previous special meeting were read and confirmed.

The SECRETARY announced that letters of apology for absence had been received from: Messrs. Abson, Dunstan, Hobday, Lloyd, Mason, Packman, Sir S. Stockman, and Maj.-Gen. Thomson.

Second Schedule. On the motion of Mr. Mulvey it was resolved—That the revised Second Schedule, as adopted at the special meeting of Council held on 10th October, including the consequential alterations to Bye-laws 53, 54, and 67 be confirmed.

Fellowship Degree. On the motion of the President it was resolved—That the revised regulations for the Fellowship Diploma, as adopted at the special meeting of Council held on 10th Oct., be confirmed, to come into force on the date of the obtaining of the new Charter.

Diploma in Veterinary State Medicine.—On the motion of the President it was resolved—That the regulations for a new Diploma in Veterinary State Medicine, adopted at a special meeting of Council held on 10th Oct., be confirmed, to come into force on the date of the obtaining of the new Charter.

Notices of Motion. (a) Mr. MULVEY gave notice that at the next meeting of Council he would move the following resolution, which had been suspended on the notice board on the 10th October:—

"That candidates presenting themselves for the First Professional Examination in, and after, December, 1915, be required to produce a certificate of having passed one of the preliminary educational examinations in accordance with the revised regulations of the General Medical Council, provided that, in the case of candidates whose educational certificates are dated earlier than November, 1914, the present regulations shall apply.

That Schedule I, as revised, be approved.

(b) Sir JOHN M'FADYEAN gave notice that, at the next meeting of Council he would move the adoption

of the following bye-laws, which had been suspended on the notice board on the 10th October :—

"53A. *Exemption.* Students who have obtained a Degree in Arts, Science, or Medicine of any University in the United Kingdom, or the Diploma of Licentiate of the Royal Colleges of Surgeons and of the Royal Colleges of Physicians, and who at the respective examinations for such degree or diploma, have passed in Chemistry, and also in Biology, Zoology, or Botany, are exempted from attendance at the first year's course of lectures and from the examination at the end of that year, provided that each student so exempted shall be examined in the whole subject of anatomy in the Class B. Examination.

Students claiming exemption under this bye-law must submit to the Secretary of the Royal College of Veterinary Surgeons, not less than three months before they intend to present themselves for the B. Examination, satisfactory evidence that they are entitled to the exemption."

This concluded the business of the special meeting.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, Oct. 21.

REGULAR FORCES. ARMY VETERINARY CORPS.

Maj. W. D. Smith to be Lieut.-Col., *vice* J. Moore promoted. Dated Oct. 15.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

V. A. Bartrum (late Sec.-Lieut. Welsh Border Mounted Brigade and T. and S. Col. A.S.C.) to be Lieut. Dated Oct. 22.

Personal.

HUNTING's condition has not improved during the past week. No operation has been attempted.

The Right Hon. Earl DERBY, G.C.V.O., P.C., D.L., has consented to accept the office of President of the 29th Congress of the Royal Sanitary Institute, to be held at Blackpool from July 6th to 11th, 1914.

In recognition of the services rendered by Sir THOMAS ELLIOTT to the agricultural industry during the many years he was secretary to the Board of Agriculture, it has been decided to entertain him to a dinner, and the Earl of Northbrook is making the arrangements. The dinner will be held at the Hotel Cecil on Wednesday, November 5.

OBITUARY

ALBERT INKERMANN DOUGLAS DRAKE, M.R.C.V.S. (late A.V.D.) Graduated, New, Edin: July, 1878.

Death occurred at Wells-next-Sea, Norfolk, on 19th October, from pulmonary tuberculosis. Aged 58 years.

[Name removed from Register in 1895, Section 5 (4).]

RICHARD GLOVER, F.R.C.V.S., Richmond House, Romford Road, Forest Gate, Essex. Lond: April, 1877.

Mr. Glover's death occurred on Sunday, 19th inst. His age was 69 years.

E. W. NICKSON, M.R.C.V.S., Blackpool, Lancs.

Livpl: Dec., 1904

Mr. Nickson died on Oct. 14th from rheumatic fever. Aged 37 years.

Mr. C. H. BROCKLEHURST, who was a frequent contributor to our pages some few years back, passed away at Ramsgate on Tuesday, 14th inst.

WILLOWS.—On the 20th inst., at his home at Hassocks, Sussex, at the age of 79, there occurred the death of Mr. Jesse Willows, for many years senior partner of Willows, Francis, Butler, and Thompson, at 101 High Holborn, and 40 Aldersgate Street. He retired in 1904, upon the business being registered as a limited company.

The late Mr. Willows worked his way by sheer hard work and sterling qualities, and richly deserved the success that crowned a strenuous business career.

In his private life he was one of the kindest-hearted and most genial of men, and was never happier than when showing hospitality to his many friends. His principal recreation for many years consisted in riding and driving; he was an excellent judge of a horse, and had some exceptionally good ones in his time.

Interment on 23rd inst. at North Mimms, Herts., in which parish he lived formerly for several years.

LAMENESS AND DIAGNOSIS.

Dear Sir,

With your permission, I venture to make a few further remarks on the above subject. The discussion, so far, has elicited some important points. I must thank "Anti-Humbag" for his criticism, and for bringing forward definite evidence with reference to the latent nature of some cases of navicular disease. Such facts open up an important matter in connection with the medico-legal aspect of the disease, as evidently it is quite possible to examine a horse as to soundness, and to pass him sound, yet at the same time the animal may be suffering from navicular disease in a latent form, and go lame within any time after examination.

When I used the term "early stage" of the disease, I meant to convey, the stage during which the lameness was not continuous, although during each attack the symptoms supposed to be characteristic of the affections, were present. This stage may be a very prolonged one, so that the term "early" is not correct. I quite admit that the opportunities for making post-mortem examinations at this stage are few and far between.

Mr. McKenny's remarks on "diagnosis" indicate that he does not think it desirable for practitioners to admit the limitations of their skill. He first gives his views on the use of the "first person plural," and seems to imagine that, when a writer employs such, lay readers will infer that said writer undertakes to speak for the "entire profession." I am afraid that he under-estimates the intelligence of the lay readers who peruse the columns of *The Veterinary Record*. I may remark *en passant*, that in the article for which I am responsible, the "egotistical I" is employed.

But one does not need to "read between the lines" of Mr. McKenny's letter to discover the direction in which he is aiming, although he writes in what the lawyers would term a "guarded" manner.

Being one of those who are described by Mr. McKenny as "lacking of the ability to apply practically, and to utilise the knowledge which is set forth as taught in the curriculum of our Colleges." I hope he will not consider it presumption on my part if I join issue with some of his statements.

It is comforting, at any rate, to know that even the above College teaching is not sufficient for a "diagnostician." So Mr. McKenny gives a vivid description of the physiological attributes necessary for the prevention of errors in diagnosis. Fortunately he does not say that the "erring ones" do not possess these attributes, otherwise they would feel deeply crushed (?)

It is really remarkable how anyone could "please to stultify himself by publishing his errors," or his "deplorable experiences." But still some of the highest medical authorities indulge in this pastime, and quite lately a lead-

ing article appeared in a medical journal on the object lesson to be derived from erroneous diagnosis.

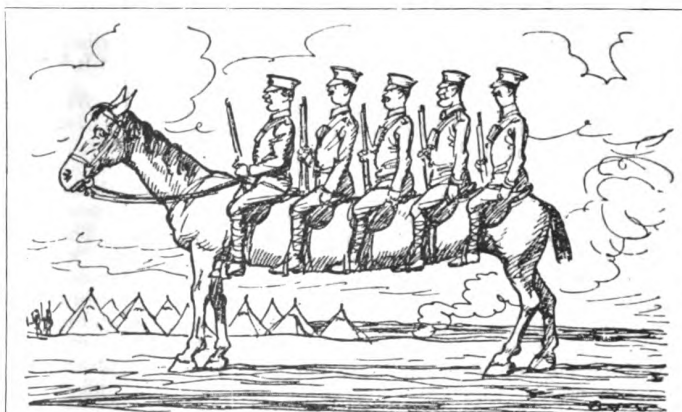
Evidently the medical profession are above the idea that "such conduct is a breach of professional etiquette, and certainly does not tend to inspire the public with confidence in the ability of the members of the profession."

The concluding sentence in Mr. McKenny's letter is remarkable. One would infer from it that typical symptoms were usually present, and that post-mortem results coincided in most cases with the diagnosis. What a Utopian state of affairs! Of course, it all depends on the practitioner; when possessed of all the attributes described by Mr. McKenny he cannot err, more especially *when in obscure cases he does not form a definite opinion*. Why go to the trouble of conducting post-mortems at all when a definite opinion has been given?

I fear that much of the self-confidence which "inspires the public" is possessed by those who do not make post-mortems on cases in which a definite opinion has been given. "A canty conceit of oneself," as they say in Scotland, is a very useful attribute.

As regards the "breach of professional etiquette," Mr. McKenny should certainly report the matter to the Registration Committee. Being such an upholder of a rigid code of ethics, his opinion would carry great weight with that august body.

E. WALLIS HOARE.



HOW TO OVERCOME THE DIFFICULTY OF THE SHORTAGE OF HORSES IN THE ARMY.

A NEW BREED ON THE LINES OF THE DACHSHUND.

[Reproduced by special permission of the proprietors of "Punch".]

"WE."

Dear Sir,

Mr. McKenny's remarks on the use of the word "We" and "I" remind me of a statement in an American paper "that the only persons entitled to speak of themselves in the first person plural are a reigning monarch, a newspaper editor, and a man with a tapeworm."—Yours truly, H.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders† (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered.*
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
Gr. BRITAIN.													
Week ended Oct. 18	16		17					4	20	29		58	575
Corresponding week in	1912	12	13				5	6	15	22	1	42	912
	1911	25	25				3	6				28	290
	1910		26	29			10	20			2	32	390
Total for 42 weeks, 1913	445		491				124	310	2054	4084	137	2005	26512
Corresponding period in	1912	630	712		82	639	148	268	2461	5256	183	2442	32735
	1911	710	881		18	467	166	396			315	2036	23855
	1910		1174	1393	2	15	313	911			359	1173	10701

†Counties affected, animals attacked: London 4.

Board of Agriculture and Fisheries, Oct. 21, 1913.

IRELAND.	Week ended Oct. 18	Outbreaks						9	1	11
				
Corresponding Week in	1912	...	...	11	20	...	...	1	11	6
	1911	...	...	...	...	...	...	6	5	63
	1910	...	...	...	...	...	...	2	4	17
Total for 42 weeks, 1913		...	...	...	...	...	...	108	413	761
Corresponding period in	1912	...	3	3	42	289	...	56	283	193
	1911	...	7	14	...	...	2	52	277	112
	1910	...	5	8	...	...	1	62	375	77

* These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Oct. 20, 1913

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

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William Hunting, F.R.C.V.S.

Once more we have to chronicle the passing from amongst us of a valued member of the profession, and it falls to less able hands to do for him what he has done so often and so well for his brethren who have gone before. On every hand we hear the words "a loss to the profession." The strong, clear judgment, the unswerving devotion to the interests of the profession, the sound professional knowledge, the genial manner, and the charming, magnetic personality made him unquestionably the most popular man in the profession.

A strong advocate and a keen adversary, he enjoyed contest, and none who knew his powers entered carelessly upon a controversy with him. His reading was wide rather than deep—he was a practitioner, not a professor.

As a young man at Cirencester, he was an athlete and a boxer, and he carried with him through life the dash and vigour of those early days. Even to within a few days of his death, the old fire would show again when the haunting pain left him for a while.

He had little faith in the practice of therapeutics, and looked with doubting eyes on the host of new remedies which are continually produced. Yet he knew that mallein is, in careful hands, practically infallible, and that tuberculin is scarcely less reliable as a diagnostic.

Generous almost to a fault, few of the many who came to him in trouble went away unrelieved, and there are many who will miss him. The calls upon his wide experience by his professional brethren were numerous—and never in vain. His best was at their service, and if perchance he was unable to assist them, they knew it was not for want of will.

But to those who were privileged to know him in his home, the love borne him by his children told even more of the lovable nature of the man.

William Hunting inherited veterinary traditions, and passed the whole of his life in the veterinary atmosphere. For several generations before our Charter of Incorporation was granted, there were Huntings practising at Yoxford, in Suffolk. Charles Hunting, who graduated from Camden Town in 1850, was a descendant of these Suffolk practitioners, and the father of William Hunting. Charles Hunting went north and settled at South Hetton, in Durham, where he became a successful practitioner and a man of distinction within the profession. He was Vice-President of the R.C.V.S. in 1865, a Member of Council from 1866 to 1870, and was one

of the few members of the College who were elected Fellows under the Supplementary Charter of 1876. It was in his practice—a combination of the colliery and country practice—that the son gained his earliest professional experience.

William Hunting graduated in 1865 from the New Veterinary College of Edinburgh, which Prof. John Gamgee carried on in the Scottish metropolis for a few years, and afterwards for a still briefer period in London as the Albert Veterinary College. For the first few years after graduation, Hunting's career included assistantships with his father, with Mr. Greaves of Manchester, and Mr. Cartwright of Wolverhampton, and a professorship of Veterinary Science at the Royal Agricultural College, Cirencester. Perhaps the most important phase of this early period was his re-association with John Gamgee, who, in 1868, appointed Hunting to a professorship at the Albert Veterinary College, terminated soon afterwards by the closure of the institution. Gamgee, a man in advance of his time, lost touch with veterinary matters soon after the failure of his school; and, at his death in 1894, he was almost forgotten by a profession which had never recognised his worth. Hunting, who rose ultimately to a far higher position than Gamgee ever attained, never ceased to speak of his old master with admiration and affection.

Hunting then engaged in private practice in London, and in the seventies was one of the first to give serious attention to the diseases and treatment of dogs. It is of interest to note that, in 1877, he was one of the successful candidates at the first examination for the Fellowship Degree. About this time he was beginning to be known in and beyond the profession, chiefly as an advocate for the repression of glanders and rabies; but the limited opportunities of a working practitioner for some years hindered his advance in the profession.

In 1888 he founded *The Veterinary Record*, assuming work for which his natural capacity and life-long experience peculiarly fitted him, and meeting an urgent need in our professional life. After this, his rise in the profession was rapid. In 1890 he became a member of Council, and was largely concerned in obtaining the Supplementary Charter of 1892—thus taking a share in the repeal of the famous "Ninth Clause," the elevation of the students' matriculation into one worthy of a profession, and the establishment of the four years' course. He was President of the R.C.V.S. in 1894-5, and his work upon the Council closed in 1896. Subsequently he became an examiner for the Membership and Fellowship Degrees, obtaining

the appointments in 1898 and 1901 respectively, and retaining both till his death.

In 1907, Hunting relinquished his private practice and an extensive consulting one to become the chief Veterinary Inspector under the L.C.C. No one knew better than himself that the step was to his financial disadvantage; but his interest in the campaign against glanders impelled him to take it. Later, he exchanged this position for that of consulting Veterinary Surgeon to the L.C.C., thus regaining the liberty to practice as a private consultant. His connection with the L.C.C. only terminated under the age limit.

WILLIAM HUNTING—AN APPRECIATION.

The profession will have learned with the most profound regret of the death of our old friend, William Hunting. One may safely say without fear of contradiction that each of us has lost a friend, the profession as a whole a champion of its highest ideals. Inasmuch as William Hunting exerted so wide a personal influence upon us all, and was esteemed so very much by the whole of the profession, a mere official announcement of his death and work would not sufficiently indicate the love which was entertained for him, and the warmth of our attachment to him. Accordingly I pen this brief "appreciation."

What were the peculiar traits of character that so endeared him to us all? He was, first and foremost, forgiving and sympathetic to an extreme degree. Wholly incapable of revenge or ill will, one remembers him many years ago, when, robust of health and mental energy, he was in the thick of the fight in respect of questions which were at that time agitating the profession, full of fighting spirit, keen to carry his points, bitterly opposed, it may be, to many of his closest friends, and yet, withal, when the controversy was over, or a banquet on hand, exquisitely sensitive to the demands of friendship, and forgiving wholly those to whom but a short while ago he had been fiercely opposed. His frankness of character and guilelessness attracted most of us. He shook hands with you firmly and warmly, and looked into your face with honest piercing eyes that possessed that indescribable magnetic influence which drew you towards him. You felt that he was your real friend, one whom you could trust and rely upon, even though your opinions clashed, and your character, may be, was not at all in keeping with his.

All will, I know, agree with me when I add that he loved his profession and ever strove to exalt its social and scientific standing. As to the social aspect of his nature no professional dinner was a real success if William Hunting were absent. He seldom was! The function in his absence appeared to lack warmth and finish, and many a time when modesty induced him to refuse to speak to a toast, he was called upon just for a little speech. The annual dinner, but for him, would have ceased several years ago. He sought to continue it in order that little frictions, occasioned by a multitude of causes, might be effaced, and the professional horizon rendered clearer pending the advent of another storm. His view on the matter may be put this way:—"I think these dinners do a great deal of good; we invite men of scientific and social distinction to our feasts, and thus secure their goodwill and influence on our behalf, and we bring together our members who are too prone to drift apart and lose interest in the pro-

fession." His social work therefore clearly was done in the interests of the profession.

As to his scientific attainments, William Hunting would not desire that I should write of him as a profoundly learned man. He was too fond of literature, and had too much professional work on hand to study science deeply. To-day, the calls of science have become so exacting that, to become distinguished, one must devote one's whole time to the work. Hunting did not do this. He loved classical and social writings too much. Nevertheless, he was fully abreast of the times in relation to scientific discoveries, and through his journal frequently inculcated to his readers the necessity of the adoption of recent scientific innovations. He may be described as a somewhat prolific writer. Always clear and logical, the language was especially directed to the point sought to be elucidated, and conveyed his opinion with precision and force.

His book on Glanders is a recognised standard work, and denotes his gifts. His knowledge of this disease from a clinical and post-mortem aspect was remarkable, and one may truly say that the great diminution of glanders in London is due almost wholly to his influence and work. He desired, he said more than once, to live to see glanders exterminated from the metropolis. Alas, he has left us just too soon to see this achieved.

One cannot but feel that London horse-owners and indeed the public generally in its ignorance of the disease, and of the ravages it has effected in the horse and man, have not extended to him one tithe of the gratitude which was his due. Hunting's temperament needed little thanks to satisfy it. An achieved object, even though unassociated with wealth or honour, sufficed for his ambition. It is gratifying, however, to be able, personally, to testify to the esteem in which he was held by the London County Council during the period in which he acted as their Chief Veterinary Inspector. Mr. Ollis, his then chief, who has done such splendid work in the suppression of glanders, has more than once spoken to me in praise of Hunting's knowledge, and has acknowledged often how valuable his advice was when difficult questions as to administration arose. As an officer of that body, possessed of wide powers, he was, although assiduous in effecting his purpose, ever kind and considerate to those who necessarily suffered by reason of his orders. Hence it was that horse-owners with animals affected with glanders resented in the least possible degree his intrusion into their stables. At the conclusion of his period of service for the Council, there were several of us who thought that his services might wisely have been retained as a consultant. Financial calls in other directions alone, however, precluded this, and the services of a really great officer in the end were unfortunately lost.

As a consultant, he was fearlessly called in by his nearest practitioner. One couldn't imagine Hunting ever after, attending for a man from whom he had directly, or indirectly, received a consultant's fee, and hence, partly, the frequent request for his services. If our work were of a nature to require frequent consultations, Hunting would have made his mark—and a large fortune. As a consultant, I often felt he was too doubtful of his opinion; the possibilities of other pathological conditions were always present to his mind, and he regarded diagnosis as an extremely difficult art. He impressed the client who was not quite behind the scenes, and relieved the practitioner of all anxieties as to his client, which, perhaps, till Hunting's arrival, troubled him more than the responsibility of the case. One can say this much, that he never failed to support his colleague and tide him over the difficulty.

As an examiner was he not ideal? I once saw him examining at Camden Town. Hunting sat upon a stool in the operating shed, smoking a cigar; he seemed

supremely happy. A student, who looked quite at home, was directed to point out the seats of certain operations. He made a mistake. "Nonsense man," says Hunting, "I am quite sure you know better; try again, and don't get flurried." "Ah, that's it. You are right now. I knew you understood the matter. But don't get worried." The student beamed upon him with gratitude, and appeared to say "how very kind you have been to me." When Hunting first introduced the cigar—and what cigars they were—during examinations a member of Council at next meeting, with the best intention in the world, questioned the wisdom of such a proceeding, but was appeased when someone observed, "Hunting must smoke whatever happens, and its only Hunting."

He was perhaps best of all in the witness-box. As an expert he was in much request. I came into contact a good deal with him in this connection. He mostly appeared in support of his professional brethren. I remember one case particularly. I appeared for a veterinary surgeon who was charged with cruelty; they fought the case most strenuously, and somewhat to my surprise Hunting stepped into the witness-box to give evidence for the prosecution. He was usually perfectly cool and collected. On this occasion, however, he appeared nervous and fidgety, and when I rose to cross-examine him he looked at me with partly diverted eyes. I knew his weakness when against a colleague, and after a time asked him if, apart from the opinion he personally held, he attached blame to the defendant in respect of his treatment and care of the patient in question? He answered "No, of course not, any practitioner might have acted as he did. I can only say what should have been done, and I am not necessarily right." The case was won, of course. Afterwards he walked away from the Court alone, appearing dejected and miserable. I called "Hunting, come and have lunch with me, and give me one of your big cigars to smoke after." We had lunch—and cigars, and travelled to town together, happy, as I felt, in each other's company. That was just Hunting. How many of those Corona cigars he smoked a week I don't know—his case seemed ever open to you.

Just one more characteristic. He was appearing for the defence in a cruelty case. The veterinary surgeon for the prosecution described rather minutely the condition of the animal, the subject of the charge. At the luncheon interval Hunting said, "Barrett, I can't support your case after that evidence, it would be wrong." I simply said of course not, we must escape on a point of law if at all; I won't put you in the box. I relate these two cases to show how loyal he was to his colleagues, how he loved to support them, how distasteful it was to oppose them; but more than this, when unable to give honest evidence he preferred to give no evidence at all.

Unmindful of a fee, I have often said: "Your fee must be so-and-so, not the sum you state. Your evidence has been of too great value for such small remuneration." Often he was not convinced. There was in him that indescribable something which attracted the Court. The judges frequently asked him questions, appeared always assured of his honesty, and often decided in accordance with his convictions. Some other clients were much attached to him. One client frequently attended our dinners on Hunting's invitation, and always took the opportunity when I spoke to him of speaking of his adviser in the highest esteem.

I cannot help feeling that in some respects Hunting mistook his calling. He, no doubt, was especially happy as a veterinary surgeon, and yet his literary gifts were of such a high order that in this sphere of work he would have achieved real distinction. His success of *The Veterinary Record* proves his merit in this connection. The publication of "The Record" has been an

immense boon to the profession. Many of the articles therein bear the stamp of his work. He did literary work for the real love of it, and was more deeply read in the translations of the classics than is generally supposed. It may not be generally known that he read largely works on political and social economy. I can imagine that if Hunting had lived in the 18th century he would inevitably have been drawn to those coffee houses of literary fame, and would have enjoyed the society of the remarkable men who so constantly frequented them.

It is, alas! all over so far as he is concerned—we all deeply deplore his loss. Fortunately his merits have in a small measure been recognised. There is hanging in the Council Chamber at Red Lion Square an oil painting of our old friend: we shall look upon it with sadness when we next enter the Council Chamber. It won't be William Hunting, it will lack the magnetic influence of his personality; the eyes suspended there will not pierce you with the vividness of his in life; the smile upon the countenance will lack the warmth that characterised his smile, nor will the lips appeal to us as his once did. Yet we would much prefer the lifeless image to nothing in remembrance of our lost friend, and feel grateful to those whose thoughtfulness and generosity have given us even this.

Each of us extends to Miss Hunting our deep felt sympathy in her irreparable loss. If we loved him so well as a colleague, how much greater must her love for him extend as a daughter. It is, I know, the earnest hope of the profession that, in some measure, our esteem for her late father will assuage the grief which his loss must have occasioned her.

We shall miss him sadly for a while, our banquets will lack originality, our meetings lose the charm of his presence. We must console ourselves so far as is possible by the philosophic reflection that all may be for the best, that the puzzle of life, though to us inexplicable, is well ordained by Him who counteth the sparrows as they fall and ordaineth the whole wonders of the universe around us. All, I know, will join with me when I say good-bye to our dear old loved friend, William Hunting.

W. FREEMAN BARRETT.

Fountain Court, Temple, E.C.

INTERNATIONAL VETERINARY CONGRESS, 1914.

A meeting of the Organising Committee of the Congress was held at the Royal College of Veterinary Surgeons, 10 Red Lion Square, on Friday, Oct. 10th.

Present. Messrs. Almond, Archer, Banham, Bullock, Carless, Carter, Clarke, Dunstan, Garnett, Hancock, Lawson, Litt, Locke, Prof. J. McCall, Dr. J. McL. McCall, MacCormack, Sir John M'Fadyean, McIntosh, Male, Prof. Mettam, Price, Maj.-Gen. Pringle, Prof. Reynolds, Lieut.-Col. Rutherford, Samson, Prof. Shave, Simpson, Slocock, Maj.-Gen. Smith, Spicer, Sir S. Stockman, Maj.-Gen. Thomson, Maj. Todd, Trigger, Villar, Wharam, Willett, Prof. Wooldridge.

Minutes. After reading the minutes of the previous meeting, the Hon. Secretary reported that he had received apologies for absence from the following: Messrs. J. Abson, W. Awde, H. Begg, J. J. Bell, P. G. Bond, W. H. Brooke, H. J. Dawes, Prof. Gifford, F. L. Gooch, W. W. Grasby, J. Henderson, F. T. G. Hobday, J. A. Jordon, L. W. W. Lloyd, J. S. Lloyd, A. I. MacCallum, J. Malcolm, S. J. Marriott, Col. J. Moore, A. T. Sewell, T. F. Spencer, C. Stephenson, J. A. Todd, C. W. Townsend, P. Wilson, W. Woods.

Army Representatives. The Hon. Sec. reported that he had received a letter from Maj.-Gen. Pringle nomi-

nating Cols. Rutherford and Butler, and Lieut.-Col. Moore to represent the Army Veterinary Service on the Organising Committee.

Correspondence. The HON. SEC. stated that he had received applications from non-professional gentlemen who desired to become members of the Congress. It was pointed out that by the standing rules only those persons who were elected by former Congresses on account of their scientific work were Honorary Members.

With regard to non-professional men it was pointed out that it was not usual to admit these as members of the Congress unless they were delegated by bodies qualified to do so.

Correspondence from certain scientific men of different countries proposing subjects for discussion which were not on the official programme was discussed. It was decided that the existing programme should not be added to, as it was likely to become overloaded thereby.

In consequence of the correspondence the question was again raised as to whether donations should be received from trading firms whose business interested them in veterinary affairs. It was decided that subscriptions to the organising fund should not be limited to members of the veterinary profession.

Hon. Secretary's Report of Progress. The HON. SEC. reported that the Board of Agriculture had communicated with the Foreign Office and the Colonial Office, and had suggested that invitations should be sent out. The following despatches had accordingly been sent from the Foreign and Colonial Offices:—

[Copy].

Downing Street, Sept 10, 1913.

Sir,—I am directed by Mr. Secretary Harcourt to acknowledge the receipt of your letter No. A.4359/1913 of the 30th July, on the subject of the representation of the British possessions at the International Veterinary Congress which is to be held in London next year, and to state, for the information of the Board of Agriculture and Fisheries, that a copy of their letter has been sent to each of the self-governing Dominions and States, to the High Commissioner of South Africa, and to the undermentioned British Colonies and Protectorates:—

British Guiana	St. Christopher-Nevis
Jamaica	Cyprus
Trinidad	Malta
St. Vincent	Nyassaland
Ceylon	Uganda
Straits Settlements	Sierra Leone
Malay States	Gold Coast
East Africa Protectorate	

Mr. Harcourt is also communicating a copy to the British South Africa Company.

I am, sir, your most obedient servant,
(Signed) H. W. JUST.

The Secretary, Board of Agriculture and Fisheries.

[Copy].

Foreign Office,
September, 1913.

His Majesty's Representatives, Abroad.

Sir,—I transmit to you herewith copies of the programme of the Tenth International Veterinary Congress which it is proposed to hold in London from August 3rd to 8th next year, with the request that you will communicate it to the Governments to which you are accredited inviting them at the same time to send delegates thereto.

The history of these Congresses is as follows:

Forty-nine years ago, at the suggestion of a distinguished British veterinarian, John Gamgee, the first International Congress was held. Gamgee's suggestion was put forward on account of cattle plague which had travelled from Russia practically all over Europe devastating the herds, and he recognised that the control of

animal plagues could not depend entirely upon each country itself, but must be the common care of all. The wisdom of Gamgee's suggestion was immediately recognised by all the European countries. These Congresses *inter alia* discuss all international questions in relation to animal plagues.

Arrangements could not, unfortunately, be made to hold the first or any of the other Congresses in Great Britain, but they have been by arrangement held every five years in various capitals of Europe—Paris, Brussels, Berne, Baden-Baden, and Buda Pesth. The Governments of the various countries concerned have always issued invitations to other Governments to send delegates.

The 9th Congress was held at the Hague in 1909, and on that occasion the Governments of Argentina, Austria, (including Bohemia, Croatia and Slavonia), Bavaria, Belgium, Bulgaria, Colombia, Cuba, Denmark, Germany (including Saxe-Weimar), France (including Algeria and Tunis), Greece, Guatemala, Hungary, Italy, Japan, Luxemburg, Mexico, Norway, Netherlands, Roumania, Russia, Saxony, Servia, Sweden, Switzerland, United States of America, Uruguay, and Wurtemberg were represented, as well as Great Britain and certain of the British over-sea Dominions.

Although the Congress is not promoted by His Majesty's Government, they take a great interest in the objects for which it is being summoned, and would learn with pleasure that the invitations had been accepted. They would also view with satisfaction the separate representation at the Congress of such educational, scientific, or other bodies in foreign countries as are interested in promoting the veterinary and kindred sciences.

The CHAIRMAN said that it was very satisfactory that invitations in the terms they had just heard read had been sent out. That was one of the difficulties in the way of having England selected as a place for the meeting of the Congress. The members of the Permanent Commission were averse to a Congress being held in any country in which it was not recognised by the Government of that country.

It was also stated that the Foreign Office had promised to give a reception in honour of those attending the Congress, and they were thus taking a real interest in the undertaking.

In reply to Mr. Carless, the Chairman stated that the Foreign Office would take no interest in financing the Congress, but in that they were not treating the veterinary profession any differently from the way in which other Congresses were treated financially. There was no precedent for the British Government giving a subsidy to any Congress of the sort.

The Hon. Secretary's progress report was considered very satisfactory.

TREASURER'S REPORT.

The TREASURER reported that new subscriptions had come in very slowly since the previous meeting. The total amount now promised was about £3,160; that was £320 short of what was required. They had set out to get £3,500, but as £500 of that was earmarked as a special reserve fund they could not call upon that unless the amount subscribed in the ordinary way was not sufficient to meet the expenses. They still required £320 in order to reach the minimum originally fixed. Death had carried off a certain number of those who had promised to subscribe. As he had not received any answer to his requests for payment from certain members who had promised a subscription, he thought it possible that some of the promised subscriptions might not be forthcoming. A large number of the English veterinary surgeons had not yet subscribed, and he thought it would be well to make another appeal to those who had not done so. The veterinary societies

had in very many cases done what they could in the way of securing subscriptions, and it was to the credit of the smaller societies, and especially certain of them, that they had received the very handsome sum they had already in hand by promise. Some of the larger societies were still at work such as the Lincolnshire, Yorkshire, and the Central in London, and he thought they might hope to reach the original minimum, but he was forced to lay stress on the fact that they now knew there was every prospect of a much larger number of delegates and representatives being present at this Congress than at any previous Congress, and he was of opinion that the minimum sum fixed would be much too small.

The HON. SECRETARY stated that at a previous meeting the exceptionally large number of representatives expected at this Congress had been discussed, and in accordance with the directions of the Committee to extend the subscription list to all members of the Royal College of Veterinary Surgeons, whether resident in the British Isles or not, he had sent out a circular inviting subscriptions from all members in the British Colonies and other countries.

The HON. TREASURER stated that he had already received substantial subscriptions from some of the members of the Royal College who were resident elsewhere than in the British Isles.

Mr. DUNSTAN asked how many veterinary surgeons had promised to subscribe, and the Hon. Treasurer replied that he had not the exact figures, but the number was less than three hundred.

The CHAIRMAN stated that it did seem pitiable to think that only about three hundred out of some three thousand members on the Register had subscribed or even promised to subscribe to the Congress. It meant just one in ten.

The HON. TREASURER stated that unfortunately some members seemed to think that their obligations had been met when the Society of which they were members sent a subscription. He did desire to point out that that was not the case.

In reply to a question, the Hon. Treasurer stated that the amount of money actually in the bank was £1,050. He urged upon all members to try and get another ten to pay at least one pound each to the Organising Fund.

The CHAIRMAN suggested that it ought to be very easy to do that; more easy than to get ten men, as they had got, to give £100 each.

It was suggested that a further application should be issued by means of a letter from the President, in which it should be pointed out that the expenses of each individual member of the Congress would be about £3, and that the ordinary subscription of membership—one pound—would not cover it. [This was agreed to.]

Exhibits. The HON. SECRETARY asked for instructions with regard to exhibits, and it was decided that exhibits by manufacturing firms should be allowed.

Assistant Secretaries. The HON. SECRETARY asked for permission to appoint assistants to help him in his work and to add their names to the Organising Committee.

This was agreed to.

It was also agreed that the skeleton programme should be prepared and issued, together with forms for membership subscriptions.

Place of Meeting. The CHAIRMAN stated that it was very urgent that rooms should be engaged at once for the meetings of the Congress, or they might find it impossible to get a suitable place. He suggested that a Sub-Committee should be appointed to make inquiries, and to engage a suitable place or places for holding the meetings.

It was resolved that a small Sub-committee, consisting

of the Chairman, the Hon. Treasurer, and Secretary, together with Messrs. Willett, Price, and Wooldridge, be appointed to make inquiries and to engage the necessary rooms.

Reporters. It was also resolved that the Sub-committee appointed to select scientific men to contribute papers should have power to make the final selection of reporters.

SUB-COMMITTEE FOR THE SELECTION OF REPORTERS.

A meeting was held after the business of the Organising Committee was completed.

Nominations with reference to reporters recommended by Committees in the various countries and colonies were considered. A list was drawn up, but it was considered inadvisable to publish this list until the various individuals had given their formal consent to act.

NORTH OF SCOTLAND VETERINARY MEDICAL SOCIETY.

The half yearly meeting was held in the Royal Hotel, Aberdeen, on August 30th. The President, Mr. W. J. Marsden, Banff, occupied the chair. The following gentlemen were present: Messrs. Anderson, Keith; Brown, Banchoy; Beattie, Longside; Cumming, Culter; Crabb, junr., New Aberdour; Clerk, Stonehaven; Hepburn, Aberdeen; Howie, Alford, hon. sec.; Kerr, Ellon; Murray, Cullen; Morrison, New Deer; Marshall, Aberdeen; Niven, Kintore; McVean, Craigellachie; McBryde, Stricken; Sievwright, Tarland; Skinner, Oldmeldrum; and Laing, Elgin.

Visitors: Messrs. Conner, Banchoy; and Howie, jun., Alford.

Apologies were intimated from Messrs. Peddie, Robson, Crabb, and Sinclair.

The minutes of last meeting were taken as read.

The following gentlemen were proposed as new members:

Mr. CLERK, Stonehaven, proposed by Mr. Cumming, seconded by Mr. Brown.

Mr. CONNER, Banchoy, proposed by Mr. Marshall, seconded by Mr. Hepburn.

A letter was read from Mr. Jas. Peddie, Dundee, regretting his inability to give a demonstration on Oophorectomy or Hysterectomy, at the August meeting of the Society, owing to stress of work in connection with camp, and examination duties. Mr. Peddie stated that the operation was not "off" but only postponed.

SOME INTERESTING CASES.

Mr. WM. HEPBURN, F.R.C.V.S., Aberdeen.

Mr. President and Gentlemen,—When asked by our Secretary to fill the gap occasioned by Mr. Peddie's inability to be present, I thought I would show you a few specimens, with short notes thereon, in the hope that they might prove of some interest.

I. Chondroids of the Guttural Pouch. The subject, a valuable Clydesdale gelding, had an attack of influenza during the spring of last year, and had subsequently developed a chronic nasal discharge, which had persisted in spite of every treatment adopted.

I was consulted after he had been ill for some considerable time, and on examination found him in a rather unthrifty condition, manifesting a little pain and swelling in the left parotid region, giving an occasional cough, and showing a slight muco-purulent discharge from both nostrils, more particularly from the left. From the condition of the animal, together with the history, that the case had been a protracted one, I diagnosed chronic catarrh of the guttural pouch with the

formation and retention of pus therein, and in all probability an operation would be necessary.

After a lapse of about two months, the animal was again brought to my notice. During this period he had been at grass, but was not thriving, and had shown an intermittent discharge from the left nostril. I advised further examination, and operation if necessary. The morning after his arrival at my place I made a careful examination, and was surprised to find that the swelling exhibited on my first examination had entirely gone, in fact there appeared to be little amiss with him. Owing to the absence of some definite symptom I decided to keep him under observation before adopting such drastic treatment as operation. After he had been in the loose-box for ten days I detected a slight sound during inspiration, which was more in evidence when feeding, and on giving him a drink of water a few clots of muco-purulent material came down his left nostril. I then decided to explore the pouch. I selected Viborg's triangle for the seat of the operation, which was done standing, the animal previously having a local administration of cocaine and adrenalin.

On getting into touch with the pouch wall I felt a few hard concretions, but on pressure these disappeared, and I had to use a sharp seton needle to penetrate the membrane. On introducing my finger I was astonished to find quite a mass of material lying fore and aft of the point of entrance. I enlarged the opening, and with a blunt instrument and frequent irrigations removed a quantity of chondroids weighing about 30 ounces.

The subsequent treatment consisted of daily irrigations, with antiseptics and astringents—creosol, iodine, acid carbolic, zinc sulph. I varied these dressings every other day or two, and finally used mild astringents only.

The animal made a complete recovery, was put to work two months afterwards, and was eventually sold at a high figure.

The point of most interest, to me, at least, was the inability to detect some trace of this quantity of material, particularly as repeated examinations were made in the endeavour to localise some substance in the pouch.

II. A Tuberculous Laryngeal Tumour in the Horse. The subject was a five-year-old Clydesdale mare, which had been ailing for two months prior to the date of my examination, and had been subjected to the usual treatment adopted for so-called "sore throat."

I found the mare in poor condition, manifesting considerable difficulty in breathing and swallowing, with a slight discharge from both nostrils, and a temperature of 102 F. On careful examination between the parotid glands a more or less hard substance was detected, and I formed the opinion that this was associated with the guttural pouches. The breathing was so stertorous that auscultation of the chest did not reveal anything. It was quite evident from the general condition that drastic treatment was urgently required if the mare were to have a chance at all. I advised the owner to send her in for operation, which was done, and I again operated through Viborg's triangle, but had to resort to tracheotomy soon after commencing, owing to the distressed breathing. On exploring with my finger I found I had a tumour-like formation to deal with, dovetailed in between the parotids, and adhering to the posterior walls of the guttural pouches. I enlarged the opening to allow my hand into the region, and after careful dissection removed a fleshy tumour, in size roughly half-a-pound. In excising it I opened both guttural pouches, which contained a quantity of thick mucoid fluid.

On cutting into the tumour it presented an appearance not unlike tuberculosis, but I was reluctant to believe that such was the case. I sent a portion to Prof. Gofton, who very kindly examined it microscopically, and found it to be tuberculous. Upon this I tested the mare with tuberculin, but with a negative result; the

only peculiarity being that her temperature became markedly sub-normal.

After the operation the mare began to feed, often finishing her food with apparent relish. The tucked-up appearance of the abdomen, however, still persisted, and the respiratory movement continued to be more or less increased, and in consideration of these symptoms I concluded that the affection was not a local one, as at first appeared, I therefore advised the owner to have the mare "put down."

The post-mortem examination showed the lungs extensively affected with tuberculous nodules. The small bowels were similarly affected throughout, the nodules being formed in the wall of the bowel. On opening these nodules they were found to be excellent examples of tuberculous ulcers. In addition to the tuberculous lesions, small tumours were in the mesentery, which on microscopical examination were found to be sarcoma of the spindle-celled variety.

The photos show pretty clearly the extent of the disease in the lungs and bowel. The oldest lesions were found in the bowels, from which one is inclined to infer that ingestion had been the means of infection, probably contracted while the mare had been at grass with infected cattle.

3. Tuberculous Bronchial Gland from ten weeks old Calf. The subject was a cross-bred calf, and it shows the virulence of some strains of the tubercle bacilli, and the effect of contact of the young with tuberculous cows.

History. This calf was born apparently healthy, and the dam was to all appearance in perfect health. When about a week old it was tied up in a stall beside a cow which was ultimately found to be affected with pulmonary tuberculosis. I examined the calf when it was about three weeks old, and found it exhibiting lung symptoms, with coughing. While making this examination I observed that the cow was breathing fast and giving an occasional cough, but otherwise was in good milking condition. After examining her I had no hesitation in informing the owner that she was suffering from acute tuberculosis of both lungs, and advised her immediate slaughter.

My opinion was that the calf was similarly affected, and that it would do no good. The owner was reluctant to have it slaughtered, as he thought it had got a chill, as it was observed to be ill about a week after it had been put into this stall. The animal did not improve and it was slaughtered at the ten weeks.

The post-mortem examination showed both lungs to be a mass of tuberculous nodules, and the bronchial glands very much enlarged. The calf was, no doubt, infected from the cow, which was kept for dairy purposes, and the case clearly proves the necessity for weeding out such animals, and confirms the soundness of the system now being adopted by some breeders of pure stock, of removing the calves from contact with the dams immediately after birth, and keeping them in separate houses, except during the times of suckling.

DISCUSSION.

Mr. BEATTIE thanked Mr. Hepburn for his exceedingly interesting cases. He had a case of what he took to be guttural pouch disease in hand just now. There was enlargement of the region of the throat. He had opened up the guttural pouches, but only got a thin fluid. He then opened the parotid gland and got away a quantity of thick mucoid fluid. The case was still under treatment, but he regarded it as a case of parotid fistula.

Mr. MARSHALL congratulated Mr. Hepburn on the success of case No. 1, and said the chief difficulty appeared to be diagnosis. It was remarkable that such a large quantity of chondroids should have existed in the pouches without giving evidence of their presence

by swelling. They were very interesting cases, and would be a guide for the future.

Mr. McVEAN thought the cases were unique, and presented great obstacles to successful diagnosis.

Mr. SKINNER said they were all indebted to Mr. Hepburn for recording these interesting cases. The method of operating struck him as being very simple, as the text books gave very elaborate directions for performing the operation in the different ways. He himself had never opened the pouches except once, and that accidentally, in the course of lancing a strangles abscess.

Mr. SIEVWRIGHT referred to the case of tubercle in the calf, and thought there was no doubt that the calf had been infected by the cow standing in same stall.

Mr. ANDERSON said the cases were extremely interesting. So far guttural pouches had been very kind to him, as he had up to now had nothing to do with them.

Mr. MORRISON had had no personal experience of chondroids, but had operated for pus in the pouches. He mostly used his finger for forcing his way into the pouch after incising the skin. He would like to ask Mr. Hepburn if in Case 2 there was diarrhoea, as it was usual to get that in cases of tuberculosis of the bowels.

Mr. BROWN, in thanking Mr. Hepburn for his interesting cases, thought the tubercle in calf was about as early as one could get it. He had had no cases of guttural pouch disease to deal with, but thought a good way of operating would be to incise the skin with a scalpel and then use a blunt pair of scissors closed; push them in direction of pouch by way of a probe: then open the scissors and withdraw. This would serve to enlarge the opening without danger of causing hæmorrhage.

The PRESIDENT asked the members to accord to Mr. Hepburn a hearty vote of thanks for bringing forward three such interesting and instructive cases and the trouble he must have put himself to in preserving the specimens and getting the photographs done. He was sure that such cases well recorded would be a great help to them when they met with similar ones.

Mr. HEPBURN, in thanking the members for their appreciation of his paper, said that he would not have been able to diagnose Case 1 unless he had seen it in the spring. In reply to Mr. Morrison, there was no diarrhoea in Case 2, but there was marked polyuria.

FEES PAID BY COUNTY COUNCILS.

The SECRETARY informed the meeting that he had been in correspondence with the County Clerk for Aberdeenshire, and had sent him a copy of the scale of fees drawn up by the Council of the National Veterinary Association, and also the booklet showing the position occupied by the various counties in Britain. He was very pleased to inform them that he had received the following letter from the County Clerk:

Aberdeen, July 10th, 1913.

Dear Sir,—I have now to state that I informed the Local Authority at a recent meeting that you had made suggestions that the scale of fees payable to veterinary inspectors in the county should be revised, in view of the scale of fees recommended by the Council of the National Veterinary Association, a copy of which you sent to me.

The Local Authority have remitted to sub-committee with powers to confer with representatives of your Local Branch of the Veterinary Association and to submit a revised scale of fees. I would suggest, therefore, that a meeting of the local branch of the Association should be held for the purpose of considering the scale recommended by the Council of the Association, and that one or two representatives of the branch Association

should be appointed to confer with my sub-committee regarding the revision of the existing scale.

Yours faithfully,

(Signed) WILLIAM MURISON.

The SECRETARY stated that he had replied to Mr. Murison's letter and asked him if the statutory meeting in August would be in time for his sub-committee, and had received an answer in the affirmative.

The PRESIDENT said it was very satisfactory that the Aberdeenshire men had such an accommodating County Clerk, and hoped that the inspectors in the neighbouring counties would receive the same courtesy from their county officials.

The meeting discussed the "National" scale of fees. It was agreed that the fees suggested by the "National" were much in advance of those paid in the north of Scotland, and it was ultimately resolved to draw up a scale of fees which might reasonably be accepted by the various county councils. After a long and careful discussion, the following list was drawn up and the Secretary was instructed to have it printed and distributed amongst the members.

NATIONAL VETERINARY ASSOCIATION.

(NORTH OF SCOTLAND DIVISION).

Fees and Allowances payable to Veterinary Inspectors agreed upon at a meeting held on August 30th, 1913.

ANTHRAX:—

For visit and inspection of single animal	7/6
Microscopic Examination	5/0
Inspection of contact animals up to 20	5/0
Every additional 10 or part thereof	1/0

ATTENDANCES AND SUBSEQUENT VISITS:—

For each ordinary visit	7/6
For an attendance rendered necessary by any circumstance which the Committee or Sub-Committee may, upon the Report of the Inspector, consider sufficient, a sum not exceeding	21/0
For an attendance at a meeting of Sub-Committee	10/6

MARKETS, PUBLIC SALES, MARTS, ETC.:—

Half-day, <i>i.e.</i> , not exceeding four hours	21/0
For each additional hour	5/0

CERTIFICATES:—

For every set of Certificates, Licences, Reports, etc. given pursuant to an order of the Board of Agriculture, or of the County Council—excepting Tuberculosis	2/6
For each set under Tuberculosis Order of 1913	7/6

GLANDERS OR FARCY, AND TUBERCULOSIS:

For applying the Mallein or Tuberculin Test for any number in any holding or stable—with mileage for two visits extra	21/0
Mallein and Tuberculin per dose	1/0
For attendance to value horses or cattle	7/6
Valuing cattle under Tuberculosis Order, 1913	No fee.
Post-mortem exams. duly authorised (and mileage)	10/6
Microscopical examinations for Tuberculosis	10/6

MANGE IN HORSES:—

Inspection of single horse	7/6
Inspection of contact animals	5/0
Microscopical examination	5/0

SHEEP SCAB:—

For visits made for inspection and examination of sheep and also for re-examination—Flocks of 250 and under	21/0
For each additional 50 or part thereof	5/0
Microscopical examination where necessary	5/0

MICROSCOPICAL EXAMINATIONS:—

In any disease not otherwise provided for	5/0
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TRAVELLING ALLOWANCES:—

For travelling by Railway, 3rd Class fare
 For cab hire (when necessary) from a railway station, per mile, one way 1/6
 For travelling otherwise than by railway, per mile, one way 1/0

TELEGRAMS AND POSTAGES:—

The cost of necessary telegrams and postages to be allowed.

(Signed) WILLIAM MARSDEN, President.
 GEORGE HOWIE, Hon. Secretary.

The following gentlemen were appointed as representatives to wait on the various County Councils:

For Aberdeenshire:—Messrs. Marshall and Hepburn, Aberdeen; and Howie, Alford.

For Banffshire:—Messrs. Anderson, Keith; and Marsden, Banff.

For Kincardineshire:—Messrs. Clerk, Stonehaven; Robson, Laurencekirk; and Cumming, Culter.

For Morayshire:—Messrs. Laing, Elgin; and Rutherford, Forres.

It was further agreed that the neighbouring counties should await the result of the negotiations of the Society with the Aberdeen County Council before taking any steps with the neighbouring Councils.

DEMONSTRATION LECTURES.

The SECRETARY stated that during the interval since last meeting he had been in communication with Mr. Wm. Brown, M.R.C.V.S., the newly appointed lecturer on Veterinary Hygiene to the Aberdeen Agricultural College. He would like to say that Mr. Brown had entered into the matter with his usual keenness, and that he had received permission from the Board of Agriculture for Scotland and the Governors of the North of Scotland College of Agriculture to give four demonstration lectures in the laboratory of the College to the members of the Society.

Mr. BROWN said he thought three demonstrations should be sufficient. He would like all those who had good microscopes to bring them along, and if anyone had a case of tuberculous udder, to bring specimens.

ELECTION OF OFFICERS.

President.—Mr. Wm. Marshall, Aberdeen.

Senior Vice-President.—Mr. D. Cumming, Culter.

Junior Vice-President.—Mr. William Hepburn, Aberdeen.

Hon. Sec. and Treasurer.—Mr. G. Howie, Alford.

Council of Management.—Messrs. Anderson, Crabb, McPherson, Brown, Sievwright, Murray (Cullen), and Kerr.

The meeting terminated with a vote of thanks to the President, which was heartily responded to.

GEORGE HOWIE, Hon. Sec.

CENTRAL VETERINARY ASSOCIATION OF IRELAND.

The annual meeting was held at O'Carrell's Hotel, Ballinasloe, on the 6th October. Mr. B. P. J. Mahony, President, occupied the chair, and other members attending were Messrs. Doran, Moffett, Howard, Clancy, Treacy, Dawson, Bolton, O'Dea, Nolans, Miss Cust (visitor), and E. C. Winter, Hon. Sec.

Letters regretting inability to attend were read from Messrs. Heney, Healy, and McKenny.

The SECRETARY asked if the Treasurer were to remit the promised subscription (second instalment) to the National meeting, and this was ordered to be done.

Members in Arrear.—The SECRETARY submitted a

list of defaulting subscribers, which he said were hopelessly in arrear. He repeatedly sent them circulars, but had absolutely no replies. He asked, Are we to wipe them off the list?

The CHAIRMAN: Did you give them notice that these subscriptions should be paid?

The HON. SEC.: Yes, and sent them circulars as well as private letters. There are a lot of them three and four years in arrear, and I don't see why they should be left on the list. Their names should be struck off. Each member said he would see six or seven of those gentlemen on the arrears list, but it did absolutely no good. I don't think this at all fair to the members of the Association who do all the work.

Mr. DAWSON: Are they not people that you could see occasionally, and get some money from them?

The CHAIRMAN: One of you gentlemen ought to write a resolution and send it in, that they get a last notice, that if they do not pay their names will be struck off the list.

Mr. BOLTON proposed that any member not having paid his subscription for three years, be struck off the roll.

Mr. CLANCY seconded, and it was unanimously carried. It was also decided that this resolution be embodied in a circular making a final request for payment.

NOTES ON CASES.

(I) Mr. TREACY brought before the notice of the meeting, a dog suffering from "jumps." The dog was two years old, and had suffered in this way since she was six months. The owner told him the animal used to get fits and fall. She was given some bromides, and he (Mr. Treacy) believed some arsenic. She works perfectly, and never shows signs of the "jumps" when retrieving.

Mr. WINTER: How long does the owner say this exists?

Mr. TREACY: Since the animal was six months old.

Mr. DAWSON: My impression is, that if you can get them in the early stages, you can do something with them, but not when they get on in years.

Mr. MOFFETT: Had she any distemper?

Mr. WINTER: She must have had suppressed distemper. Degeneration of the nerves is the probable cause.

Mr. TREACY: The owner told me the dog had no distemper; it must have been slight, and he did not notice it. I don't think treatment would have been any good for this case.

(II.) Mr. DAWSON said this reminded him of a case he had with a horse that had been cast as a "shiverer." The owner brought him, and he (Mr. Dawson) did not consider him a "shiverer." He wanted the opinions of some of the gentlemen present as to the case. When you stood in front of the horse he was all right, and when you stood behind him, he was a "shiverer." When you take his head and ask him to back, he shows all the signs of tetanus.

Mr. WINTER: How long does tetanus last?

Mr. DAWSON: I know a horse that was castrated and got it, and never got better. He did carting work for fifteen years.

Mr. WINTER: The longest time I ever saw it last for, was three months.

Mr. DAWSON said what he used was 3oz. Mag. sulph. solution hypodermically in the neck, and in most cases the animal got better.

Mr. TREACY said he used bromide of potash in several cases, and the Chairman said he found chloral hydrate very successful.

Mr. WINTER: In my last three cases I gave them nothing but calomel, with the best results.

Mr. BOLTON: I have had several successful cases with serum.

Mr. DORAN: Two or three cases recovered with me in the last month, and I treated them with mag. sulph. and calomel.

(III.) Mr. DAWSON related another case he had. A horse was brought to him, and its jaws were locked, and locked for 48 hours, and the rest of his body was semi-paralysed.

(IV.) Mr. WINTER said he had a funny case last winter. There was a horse suffering from tetanus for six or seven weeks, and got better. Some three or four weeks after he was out in a field and got paralysed, and was shot. He (Mr. Winter) saw him and could not say what was wrong. Was it a recurrence of the tetanus? He believed himself it was a blood clot.

The CHAIRMAN: It was probably a clot.

SEVERAL ODD CASES.

By Miss ALEEN CUST.

Miss Cust, who was received with applause, said she knew it was usual to make excuses for a paper, even when it was not necessary at all, but it was in her case. Her paper was very indifferent as she had not time to prepare it, so she craved their kind indulgence. The paper contained a number of cases met with by Miss Cust in the course of her professional work.

(I.) Do any of you ever twist a glicking cow's tail round her hind leg from the inside, and get somebody to catch hold of it and pull the leg back each time she tries to kick you? Because I always try this, and thought it infallible and harmless, and efficacious, until one day, somehow, I can't say how, the cow gave a sort of lurch, the man "held his hoults," and lo, the tail came off, skinned as neatly as a foxen brush, leaving about twelve inches of bone exposed. The man fell down amidst a general roar of delight. A sense of humour is invaluable at such times!

(II.) I was called to see a cow which had calved ten days previously, but had, as the owner described it, only partly cleaned. The decomposed state of the placenta may be imagined. There was about eighteen inches of it hanging down, the cow not feeding, no milk, and not a promising looking subject. I had cuts on my hands, and to tell you the truth, I was not keen on making a manual exploration. Luckily, however, I did so, and found a strong membrane passing from wall to wall of the vagina. The band was about two inches deep, and three-quarters of an inch thick. Round this, as if hanging on a line, was the rotten placenta, which I cut through, to the immediate relief of the cow, which at once began to eat, and soon was well again.

(III.) A mare was brought into my yard with a history of having the previous night got into a field of half ripe oats, before which she was in perfectly normal health. The symptoms shown were most remarkable. The hind legs at each step being so sharply flexed that they actually hit the mare's belly when she walked. I gave a physic ball, and in two days she was all right again.

(IV.) The other day, when examining the liver of a cow which had died calving, I found the bile ducts full of chewed grass. The gall bladder was full of gall stones and the liver was full of flukes. How did the food get into the bile ducts?

(V.) A pony mare with a history of not being in foal that year, and of having fallen in harness some weeks previously, was brought to me, as her owner feared she "would bleed to death." Occasionally a big clot of blood would fall from the vulva, and on examination, first manually, then with a speculum, I was able to satisfy myself that the hæmorrhage came from the uterus. There was no lesion at all in the vagina, which appeared perfectly normal. The interesting part is—not in my treatment, which was astringent irrigations, and Ext. Ergot internally—but what was the cause? The pony

recovered in about three weeks and is still in perfect health, and this happened over a year ago.

(VI.) A cow brought with a fistula in the left flank low down, from which the contents of the bowel—not the rumen, were exuding. History said "she had a lump there for two months which burst seven days ago." The noteworthy fact was that she seemed in perfect health in every way, and was chewing the cud, milking, and doing everything a healthy cow would do, and was not one bit put about by the fistula. I advised "Do nothing"; and the cow still lives, though that was 18 months ago.

(VII.) A kid got its gastrocnemius tendon caught in the coupling hook with which it was chained to its dam. Antiseptic treatment was applied within a few hours of the accident, and no more was thought about it. A fortnight after, my attention was drawn to a curious distressed note in its bleat, and it was then seen that the kid had tetanus. Anti-tetanus was used, but it died speedily, and most typically.

Miss CUST related another case which she had recorded. A horse while negotiating a broken gate got an injury in his side, just where the lung is tapped. You could put two fingers into the wound, and a small piece of something came out of it. What came through the opening? Was it a piece of the lung?

Mr. WINTER: If it were any other situation you would say it was a piece of the bowel.

Mr. DAWSON: It was the corner of the lung.

Mr. WINTER: It could not be anything else.

Mr. HOWARD said he had a case of a horse with an enlargement on its side; when the horse was exercised it increased, and when the animal was at rest it decreased.

Miss CUST told of a case where a young mare got a fall and after six weeks it used to pass great clots of blood. This had continued for three weeks, and she was confident that the animal would bleed to death. She gave Adrenalin, and the animal fortunately recovered.

Mr. DAWSON told of a case where he had to plug the vagina. The plug was left in for three days, then his assistant took it out, and the animal lived no time. The plug was taken out too soon. The plugging was going to save the animal's life, but he considered three days sufficient to leave it in.

The CHAIRMAN said he very frequently plugged animals without any harm. He left it in in some cases, and let it come out itself.

Miss CUST said she believed, in the case related by her, that it came from the uterus.

Mr. DAWSON: Was there any chance that it was coming from the kidneys?

Miss CUST: No.

Some of the members said it might be a kind of hæmatoma.

Mr. DAWSON: What diagnosis do you get off that? Is it clots of blood?

Miss CUST: Yes.

Mr. TREACY: Quite a number of them are on my list from this.

Mr. DAWSON: My line of treatment in this case is Perchloride of iron. I give 2 oz. three times a day.

Miss CUST: That is my treatment.

ETHICS.

Miss CUST said she would like the opinion of the meeting, as to how members should act in the case of some hypothetical cases which were going to be put before them.

My first case was: "B" was not long started in a district and was treating a certain case. "A" is called to the case and knew nothing about "B" treating it, but the owner of the animal does not want "B" any more. What is "A" to do?

Mr. WINTER: There is nothing for him to do except continue to treat the case.

Mr. TREACY: The only thing is that the owner should let "B" know definitely that he had finished with him.

The CHAIRMAN: I think "B" should give up the case to "A." A similar case occurred to me. The animal was brought to me and I saw it. "B" wrote to me and told me he had this case in hand, and was I going to take it from him. I wrote then to the owner, who replied that "B" had the case six months previously and gave it up. I sent the owner's letter to "B" and he said he had seen the animal later, and claimed the case. The result was, that a third man was called in and neither of us got it.

Miss CUST: Then the meeting decides that "A" is to go on.

Mr. HOWARD: "B" should be informed.

Proposition II. Miss CUST: "A" is called and is told "B's" opinion is that the case is hopeless. "A" hesitates to go, but is assured "B" will not be employed again. "B," however, pays another visit; he is entitled to a further fee?

Mr. WINTER: That depends on the client.

Mr. O'DEA: It puts "B" in a wrong place.

Miss CUST: "A" is to go on again.

Mr. DORAN said with regard to the question of fees, in his district they hardly ever get a second fee.

The CHAIRMAN: And you go twice for one fee.

Mr. DORAN: As a rule they never send for you a second time. When they call you in first they expect you will see the case through.

Mr. HOWARD drew attention to a practice in the South and West of Ireland, where veterinary surgeons examined horses for insurance companies for fees of 3/-, 4/-, and 5/-. A case came to his knowledge where one of the gentlemen present was asked to examine a horse valued for £500 by an insurance company, and was offered a fee of 5/-. He refused it, and another man, four miles away, examined the horse for 5/-.

Mr. CLANCY said the case was his, and it was a young man did the work.

Miss CUST: The veterinary surgeon should be paid on the value of the animal.

Mr. NOLANS said he had a case and refused to work at the figure offered, and subsequently certified for £1 1s. fee on behalf of the client.

Mr. CLANCY: I think we should deal with the people that do this—the insurance companies.

Mr. WINTER: I had three applications to examine horses, and the insurance company said that they only got £2 and they have to pay agents, and consequently have very little out of it. I told them to let the owner get a certificate, and he did, and I got my fee.

The CHAIRMAN: The only thing is to bring pressure on the individual.

Proposition III.—Miss CUST: A position becomes vacant in "A's" district, without consulting him. "B" sends in his application, although "A" did not offer himself for a vacancy in "B's" district. Is "B" playing the game?

Mr. WINTER: No.

Mr. HOWARD: It is not professional honour.

Miss CUST: "B" is not playing the game.

Proposition IV.—Miss CUST: "A" is for years working for a man, and for no reason the owner employs "B." "B" is away "at play" when required, so "A" is called again. Should he go?

Mr. NOLANS: Yes, and hand over the case on "B's" return.

Mr. WINTER: He should tell his client to go to a very warm place, that I will not mention.

Mr. DAWSON: Certainly, let "A" go.

Miss CUST: "A" is to go.

Proposition V.—Miss CUST: "A" is required to make a post-mortem. He finds when there that there is

a man on the other side. Should he wait for him, and how long?

If too long, perform the post-mortem, disturbing the carcass as little as possible.

Proposition VI.—Miss CUST asked, in case of running over a dog with a motor car, should you stop and attend, or go on?

The best thing to do, the meeting decided, was to go on.

The CHAIRMAN: You have all heard Miss Cust's paper, a very interesting one too, which was evident from the lively manner in which the discussion was kept up. They were all very thankful to her for the nice paper.

Mr. WINTER said Miss Cust's paper was not laboured, it was the sort of paper he was always trying to get; such notes always provided lively, although informal, discussion. The discussion on such a paper was beneficial to all, and there was nothing so boring as to sit down and listen to a long paper, most of which had been copied from some authority. He found it very difficult to get members to supply papers, although it only took a short time, and sometimes meetings fell through, owing to broken promises. They, country practitioners, had not time to write a treatise, but something short would do. There was no meeting, he believed, that he ever attended but he learned something. He begged to propose a hearty vote of thanks to Miss Cust for having filled the breach.

Mr. BOLTON seconded the vote of thanks, and Miss Cust replied expressing her thanks for the manner in which her paper was received.

Mr. HOWARD: I do hope before long that the Central Veterinary Association will see Miss Cust an M.R.C.V.S., as I think she would be an ornament and a shining light in the profession.

Mr. NOLANS kindly consented to read a paper at the meeting to be held in Dublin in January.

This concluded the business, and Mr. Howard proposed a vote of thanks to the Chairman. He came there that night, a very long distance, to preside over that meeting, which showed how deep at heart he had the interests of the profession. He hoped they would have him at many more meetings.

Mr. WINTER, seconding, said a hearty vote of thanks was due to Mr. Mahony for having come such a distance there that night to preside.

The CHAIRMAN said he was very thankful for the vote of thanks. It was a pleasure for him to come when he heard Miss Cust was to read a paper, and he knew he would be well repaid for his time and the distance travelled. He could go back well pleased and proud that he had attended the meeting.

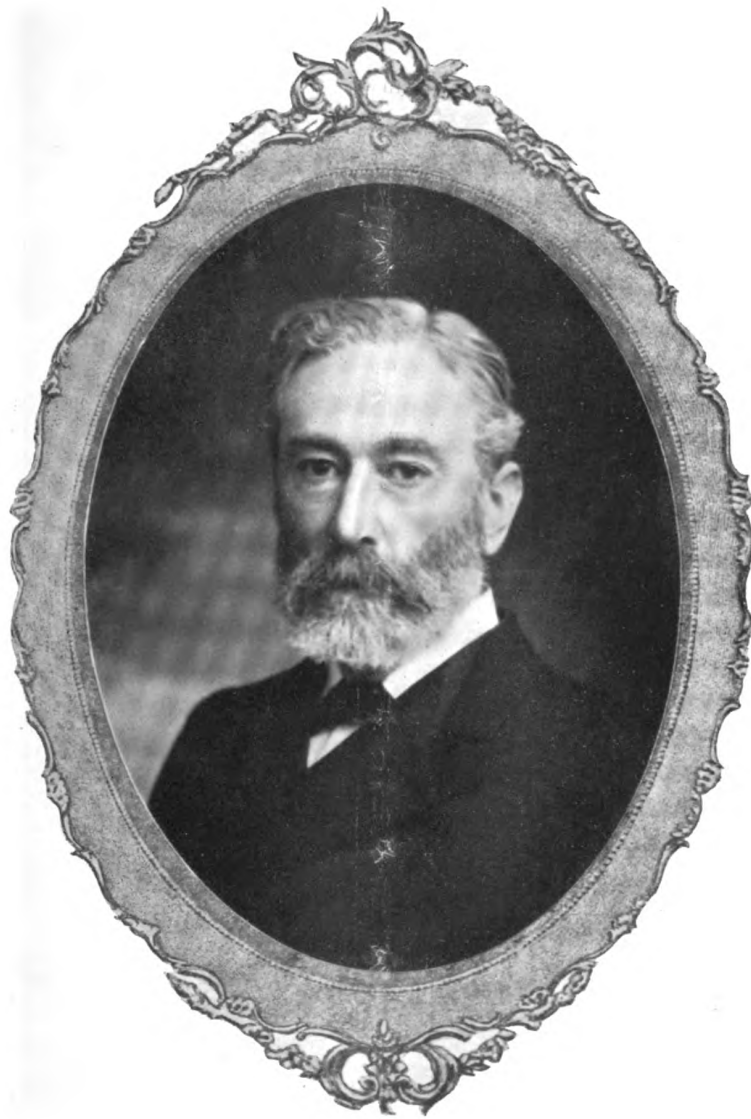
E. C. WINTER, Hon. Sec.

Alleged Breach of Warranty.

At the Carlisle County Court on Tuesday, October 14th, before His Honour Judge Gawan Taylor, Robert Verers, farmer, Belle Vue, Carlisle, sued William Cowle, Woodhall Hill, Haydon Bridge, for the return of £23 paid in respect of a contract alleged to have failed. The plaintiff claimed the return of the purchase money for a cow which he purchased at Harrison's Auction Mart, Carlisle, on April 26th, 1913, for £23, under the conditions of sale at the mart. As an alternative the plaintiff claimed damages for breach of the warranty.

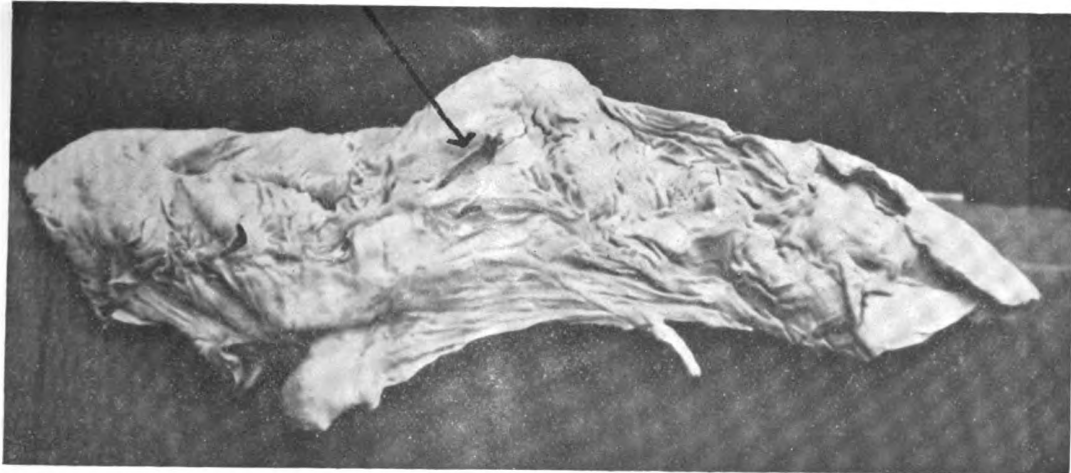
Mr. G. A. Lightfoot appeared for the plaintiff, and Mr. Gibson, Hexham, was for the defendant.

Mr. Lightfoot said they contended that from the conditions of the mart they were entitled to repudiate the bargain. It was true there was no implied warranty in regard to tuberculosis, but this cow, apart from the tuberculosis, was found to be suffering from induration



WILLIAM HUNTING, F.R.C.V.S.

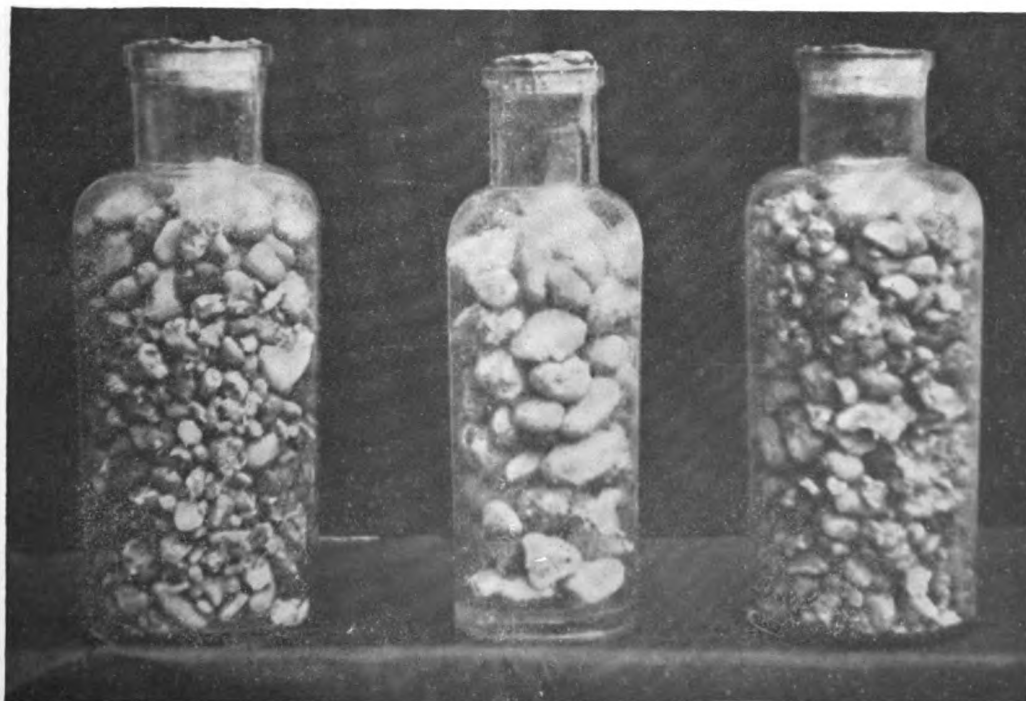
President R.C.V.S. 1894-95.



TUBERCULOUS LESIONS IN LUNGS AND
BOWEL OF A HORSE. (Case II.)
Tuberculous ulcer indicated.

To illustrate notes by
Mr. Wm. Hepburn, F.R.C.V.S.,
(North of Scotland V.M.A.)

CHONDROIDS FROM GUTTURAL POUCH.



of the udder, which was an unsoundness and an unhealthy condition within the meaning of clause 2 of the conditions of sale. It might be suggested that induration of the udder was the same as tuberculosis, and whilst the induration of the udder might come from tuberculosis it was by no means bound to result in tuberculosis.

Robert Vevers, the plaintiff, stated that on Saturday, April 26th, he visited Messrs. Harrison's Auction Mart, Carlisle, for the purpose of buying a newly-calved cow for use in his milk business. A roan cow, belonging to Mr. Cowle was put into the ring, and witness said to defendant, "If I buy this cow it will have to pass the veterinary test." Mr. Cowle said "It will pass anything." Witness had had trouble with the cow the previous week, and that was the reason why he spoke to Mr. Cowle. The cow was knocked down to witness for £23, and before it left the mart he and his wife saw it milked. Mr. Cowle was there when the cow was milked. The cow was taken out on the Saturday, and on the Monday Mr. Craig Robinson examined the udder, and pointed out its condition.

In answer to his Honour, witness said that it was the duty of Mr. Robinson to examine cows.

Continuing, witness said that Mr. Robinson pointed out to him that there was a hard part in the udder, which witness felt. Witness did not know what was wrong, and Mr. Robinson, on that day, put the animal to a test. He also came to witness's place on the Tuesday and tested the cow again. In consequence of this the cow was sent back to the auction mart on the Saturday. The veterinary surgeon instructed the auction mart officials not to sell the cow but return it to the vendor.

Cross-examined: From what Mr. Cowle said witness thought that he would take the cow back if it would not pass the test. When a man named Bowman at the auction mart said that the cow would be taken back if it did not pass the test, he did not hear Mr. Cowle say anything in the byre, but he may have spoken to witness's wife.

Margaret Vevers, wife of the last witness, deposed that she was outside the ring in the mart when this particular cow was brought in for sale. Witness's husband spoke to Mr. Cowle, after which he bought the cow for £23. She was present when the cow was being milked at the byre at the mart, and Mr. Bowman, an official at the mart, said: "Well, Maggie, have you made that one right?" She replied, "Yes, we bought it from this gentleman, and he is going to take it back if it does not pass the test." Mr. Cowle was present at the time, but witness had had no conversation with him before the sale. She answered Mr. Bowman in consequence of something her husband had told her.

Cross-examined: She did not hear Mr. Cowle say anything in the byre at the mart, and she did not think that the cow was dear. The lump in the udder might be the size of a small hen's egg.

Mr. R. Craig Robinson, official veterinary surgeon for the City of Carlisle, stated that in fifteen years he had examined between fifty and fifty-five thousand cows' udders. He spoke to examining this particular cow, which he found had an indurated udder in a chronic state. The consequence was that the animal would not give as much milk in that quarter, and it might progress to such an extent that the quarter would be lost altogether. It would prejudice the cow, and would make it less useful.

By His Honour: Tuberculosis was the most uncommon cause of induration of the udder. The commonest cause was previous inflammation, resulting in a chronic change taking place in the tissue. The induration had evidently been present for three or four months.

Continuing, witness said he injected tuberculin, and

at that time the temperature was 101.2, at the ninth hour afterwards the temperature was 104.4, and at the twelfth hour 106.4. He came to the conclusion that the cow was affected with tuberculosis as well as having an indurated udder.

By his Honour: The tuberculin test was recommended by the Board of Agriculture, and was the most up-to-date method used for the purpose of detecting tuberculosis. If this animal had not been affected the temperature would have remained stationary. The induration of the udder was a notifiable disease, and people would hardly buy a cow so affected.

Cross-examined: An indurated udder might contract and shrivel, but would not dissolve altogether. This was the first cow in fifteen years that litigation had arisen from.

Mr. Lightfoot: It is rather a rough time for the lawyers. (Laughter).

After a long legal argument, Mr. Gibson called evidence for the defence.

Francis Pickering, Hexham, assistant veterinary inspector for the Northumberland County Council, stated that he examined the cow on May 6th. In his opinion the udder, though thickened in the near hind quarter, was not indurated or tubercular. He handled the udder very carefully, and found that there was a congestion of the blood vessel. In his opinion the cow had not an indurated udder.

Cross-examined: There was a small disparity in the udder, but this was nothing out of the common. From what Mr. Robinson said regarding his diagnosis of the udder on the 26th of April, and what witness saw on 6th of May, he should say that Mr. Robinson was mistaken.

Charles Carruthers, veterinary surgeon, Haltwhistle, stated that he examined the cow on June 1st and 2nd, when he found nothing wrong with the udder. There was nothing abnormal, and nothing with which he could connect disease. The animal was sound and healthy.

By Mr. Lightfoot: He supposed that he and Mr. Robinson had examined the same cow, but he did not know. (Laughter). He did not understand how Mr. Robinson had come to his decision regarding the indurated udder. He thought Mr. Robson must have found a blasted udder.

By his Honour: If the cow had been suffering from a blasted udder it could be sold about ten days later, unless it caught cold.

Answering Mr. Gibson, witness said that farmers would buy these cows with blasted udders, and think nothing about it.

Thomas Hunter, veterinary surgeon, Newcastle-on-Tyne, said he examined the udder of the cow on October 12th, and found it to be perfectly sound and healthy.

Cross-examined: He would not swear that when examined on April 26th the udder was indurated.

His Honour in giving judgement said that he found that there was either induration or some dangerous condition less than induration, and that the cow was unsound, therefore there had been a breach of condition. There must be judgment for the plaintiff.—*The Carlisle Journal*.

The Royal Sanitary Institute.

CONGRESS, 1914.

The Council of The Royal Sanitary Institute have accepted an invitation from the Mayor and Corporation of Blackpool to hold the next Congress and Exhibition of the Institute in Blackpool, from July 6th to 11th, 1914.

E. WHITE WALLIS, Secretary.

90 Buckingham Palace Road, S.W.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders† (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered.*
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
Gr. BRITAIN.													
Week ended Oct. 25	7		9				2	2	25	31	4	43	428
Corresponding week in	1912	9	9				3	19	29	3	37	762	
	1911	13	14				23	4	12	1	45	960	
	1910	32	39							2	41	486	
Total for 43 weeks, 1913	452		500				126	312	2079	4115	141	2048	26940
Corresponding period in	1912	639	721		82	639	148	271	2480	5285	186	2479	33497
	1911	723	895		18	467	177	419			316	2081	24815
	1910		1206	1432	2	15	317	923			361	1214	11187

†Counties affected, animals attacked: London 2.

Board of Agriculture and Fisheries, Oct. 28, 1913.

IRELAND. Week ended Oct. 25	...		...		...		...		Outbreaks			
	...		...		...		...		1	10	2	8
Corresponding Week in	1912	...	...	...	23	67	...	...	2	2	1	41
	1911	...	...	...	...	...	...	...	1	4	1	28
	1910	...	2	2	...	...	...	...	...	7	1	...
Total for 43 weeks, 1913	...	...	...	...	...	...	...	...	109	423	127	769
Corresponding period in	1912	...	3	3	65	356	...	...	57	285	194	1581
	1911	...	7	14	...	...	2	3	53	281	113	1923
	1910	...	7	10	...	...	1	2	62	382	78	1778

* These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Oct. 27, 1913

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

The Milk Supply in Ireland.

The final and unanimous report of the Irish Milk Commission, which was appointed by the Lord Lieutenant, has been issued. The terms of reference included inquiry into the alleged scarcity of milk in Ireland, the causes, the effects on the public health, and the remedies; also inquiry into the dangers of contamination and infection of the present milk supply and the best means for guarding against those dangers. The Commissioners held 56 meetings in various parts of Ireland. They also sat in Manchester and Birmingham to ascertain the measures which are taken against contamination and infection in the large English cities. The report is divided into two parts—"The Milk Supply" and "The Purity of the Milk Supply."

The second part of the report deals with the elimination of tuberculosis among cattle and the prevention of the use of milk infected with disease. The Commission favours the modernisation of the law regarding disease in cattle. Large powers should be given to public health authorities for the regulation of dairies and the sale of milk from them, and the Dairies, Cowsheds, and Milkshops Order of 1908 should be amended. The Commissioners also recommended the strengthening of the Food and Drugs Acts in respect of the sale, storage, and adulteration of milk. A final recommendation is the appointment of a co-ordinating committee, composed of representatives of the Local Government Board and the Department of Agriculture, to deal with all matters of public health and the health of cattle in which the two Departments are concerned.

Glass Windows for Pigs.

The Rural Council at Baltinglass, County Wicklow, is sharply divided on the question: Should pigs have glass windows?

The pigs of the district, it seems, have been suffering in health from too severe seclusion. Mr. J. J. O'Ramsey, the sanitary inspector, told the Council that several had died from the "closeness" of their sties, and added that "probably the darkness produces anæmia." He recommended gates and windows for the sties at £1 10s. each. A majority of the Councillors were unsympathetic.—*Daily Mail*.

Petrol as an Antiseptic.

The following description of an operation may serve to introduce yet another use for this volatile hydrocarbon. The operation was for a large fatty tumour of the right labium major in a woman of fifty.

I took the instruments from the drawer and, instead of boiling them, soaked them well in petrol. At the house the only preparation previous to our arrival consisted of the shaving. I then bathed the site of operation with petrol, and after the incision, extraction, and sewing were completed I bathed the part once again and applied dry wool. Notwithstanding the daily soiling, by the application of petrol after each micturition the wound healed by first intention. With a wound situated in such an awkward part it is impossible to keep on an orthodox dressing, and the ease of application by an unprofessional attendant made the petrol a most valuable dressing.

At my suggestion, in several of the metal works of this district small wounds are now treated at once by spraying petrol on them, and with splendid results. My idea is to render the half-destroyed cells non-poisonous by interfering with their surface tension. These small metallic burns are very difficult to heal on account not only of the dirt, but also of the enzymes which are set free from the half-burnt cells. The enzyme products poison the wound and prevent the surface of the wound taking on a healthy appearance. By means of petrol the surface tension of the enzymes is so affected as to render them quite inert, and as a consequence the wound is allowed to remain clean and unpoisoned.

The non-irritating quality of petrol gives it a ready advantage over all the other antiseptics, especially those of the coal-tar group. Its one great disadvantage is that it is so inflammable; and unless operations or applications can be made away from a fire its use is contra-indicated.—*The Hospital*.

Dick Veterinary College Extension.

In order to provide a site for the new Royal (Dick) Veterinary College at Summerhall Square, Edinburgh, the old Summerhall Brewery had to be demolished. The work of pulling down the old buildings has been proceeding for some time, and about half of the ground has been cleared. The foundation tracks have been cut, and it is expected that part of the foundations of the new buildings will be laid next week.

On the north side of the site further demolition work was impeded by the brewery chimney, but to-day that structure about 65 feet high, and believed to be about 200 years old, was felled. Part of the brickwork had been carefully cut away, and wooden supports put in. A fire was lighted under the supports, and when these were burned through, the mass of brickwork fell with a crash, sending up volumes of dust. Prin. Bradley, of the Dick College, was among a number of interested spectators who saw the chimney fall.—*Edinburgh Evening Dispatch*.

Hunting Memorial Fund.

It has been proposed by several friends, both professional and otherwise, of the late Mr. William Hunting, that a fund should be raised with the object of erecting a memorial stone, and, if possible, instituting some prize or lectureship in memory of the deceased gentleman. A committee will be formed later on. In the meantime subscriptions may be sent to myself, who will acknowledge them personally, and through *The Veterinary Record*.

GRANVILLE GRAY.
23 Upper Phillimore Place,
Kensington, w.

October 30th, 1913.

Notices were circulated in Warwickshire to the effect that the annual audit for the collection of the Earl of Dalkeith's "wroth silver" would be held at Knightlow Hill, Ryton-on-Dunsmore, "before sunrise" on Nov. 11th, and that all those from whom payment is due are requested to attend. The ancient ceremony is quaint. People assemble around a large block of stone, in the centre of which is a receptacle, and the Earl's steward having read "The Charter of Assembly," the representatives of the different parishes, nearly thirty in number, are called upon to drop their contributions into the hole in the stone. The individual amounts vary from 1d. to 2s. 3d., and when the custom had its inception these sums would represent an altogether different value. According to popular belief "wroth silver" was originally a payment for the privilege of using certain roads belonging to the lord of the manor.

Anti-Formin and Acid-Fast Bacilli.

A Correspondent, who desires to remain anonymous, writes us that the remark in last week's issue concerning the disintegration of acid-fast bacilli is not wholly correct, and that notably John's bacillus, besides others, is not so affected by the reagent. Does this mean that there is a difference in the technique employed?

Personal.

BROAD.—At Marlborough, the wife of Wm. T. D. Broad, M.R.C.V.S., of a son.

MR. GEO. E. KING writes:—"I desire to express my gratitude to the many friends who wrote expressing their sympathy with me in the bad accident I had in August, when a horse fell upon me, causing a compound fracture of the right leg with the complication of a punctured vein. I am pleased so say that although still very lame I am sufficiently recovered to resume my work."

"I was very very grieved to see the announcement of poor Hunting's death. My lameness prevented me paying the last tribute of respect to him. I cannot say I was surprised, for I noticed a great change in him when I saw him last in July."

OBITUARY

WILLIAM HUNTING, F.R.C.V.S., Chelsea, S.W.

Graduated, New, Edin: (Gamage), April, 1865.

The announcement last week that "no operation has been attempted" will have indicated to our readers that Mr. Hunting's condition was more than serious. The septic trouble became generalised, and his strength ebbed. He passed away peacefully shortly after noon on Friday last.

The interment was at the beautiful little cemetery at Putney Vale, on the Kingston Road, on Tuesday. The mourners were: Mr. Fred Hunting (son), Mr. Charles Hunting (brother) and his two sons; Mr. R. Brydon, Seaham Harbour, Mr. R. C. Irving, Mr. J. Emerton, Mr. Spen Kitto. There were also present:—Messrs. Nicholson Almond (Chairman, Board of Examiners, R.C.V.S.), W. H. Brown (*The Veterinary Record*), R. Bryden, Fred Bullock (Secretary R.C.V.S.), W. Roger Clarke, R. J. Foreman, Henry Gray, W. L. Harrison (Assist. Sec. N.V.A.), F. T. G. Hobday, F.R.S.E., C. J. Humphries, H. A. MacCormack (Hon. Sec. Central Veterinary Society), Dr. J. McI. McCall M.B., C.M. (Board of Agriculture), Sir J. M'Fadyean (Royal Vety. College), J. W. McIntosh, F.R.S.E., J. Malcolm (Midland Counties V.M.A.), W. J. Mulvey (Treasurer, R.C.V.S.) Parker (L.C.C.), T. Salusbury Price (Past President N.V.A.), Maj.-Gen. Pringle, C.B., D.S.O., Dir. Genl. A.V.S., W. Reekie, Vet.-Capt. Rees-Mogg (1st Life Guards), C. Roberts, F. G. Samson (Royal Counties V.M.A.), S. H. Slocock (Southern Counties V.S.), S. L. Slocock, Prof. E. S. Shave, Maj.-General F. Smith, C.B., C.M.G., Chambers Smith (Sutton), Sir Stewart Stockman (Board of Agric.), G. H. Thatcher (Solicitor, R.C.V.S.), R. C. Trigger (Midland Counties V.M.A.), E. White Wallis (Sec. Royal Sanitary Institute), Prof. G. H. Wooldridge (President Central Veterinary Society), T. Wright, and several others whose names we are unable to give.

Floral tributes, many of them very beautiful, were sent by:—"In loving memory of our dear Father," from Louie and Fred; "A sad good-bye, from Charlie and Mona," Hexham; "In loving memory," Mina; from Winifred, Percy, Mona, Lindsay, and Althea, Hexham; Mr. and Mrs. Brydon, Seaham; Sir John and Lady M'Fadyean; Sir Stewart and Lady Stockman; Henry Gray and Family; Mr. and Mrs. J. Macqueen; Mr. and Mrs. Stanley Carless; Mr. and Mrs. W. J. Mulvey; Mr.

and Mrs. Joseph Emerton; Mr. and Mrs. Leslie Brass; Capt. and Mrs. Todd Thornton; Mr. and Mrs. G. E. King; Mr. and Mrs. Spen Kitto; Mr. and Mrs. G. Urquhart; "From an Old Servant"; Mrs. Simester and Family; Mr. and Mrs. W. S. Mulvey; Mr. and Mrs. J. Willett; Mr. H. A. MacCormack; Mr. T. Wright; Messrs. Price and King; Mr. W. Perryman; Mr. E. H. Leach; Mr. W. H. Brown and Mr. J. B. Brown; President, Council, and Officers of R.C.V.S.; Principal and Staff of Royal Veterinary College, London; Principal and Staff of Royal Dick Veterinary College; Colonel Blenkinsop and Aldershot Veterinary Corps; Messrs. Almond, Bloye, and Hickes, colleagues on the Examining Board, R.C.V.S.; Directors of Messrs. J. Lyons and Co.; The National Veterinary Association; President and Fellows of The Central Veterinary Society; Veterinary Medical Association of Ireland (Harp, with motto, "Now the labourer's task is o'er"); Members of Southern Counties' Veterinary Society; The Yorkshire Veterinary Association; The South Eastern Veterinary Society; The Staff of *The Veterinary Record*; *The Veterinary Journal* and *The Veterinary News*.

The sad news reached us as the last sheets of "The Record" for the week were running off the machine; and although a few lines were inserted in *The Daily Telegraph* of Saturday, very many did not see either that, or the fuller notice of Monday morning's issue, which appeared also in *The Times*, and *The Morning Post*. Many, too, have written their regrets that they were unable to be present through illness; and others that they were prevented from other causes.

To all of these Miss Hunting desires to express her gratitude for their sympathy and kindness. So far as possible she has replied personally.

We greatly regret to record the death of Mr. Edward Warburton Nickson, M.R.C.V.S., which occurred from an attack of acute rheumatic fever at his residence at Hambleton, on Tuesday, October 14th. The deceased, who was 37 years of age, was the second son of the late Mr. Fred Nickson, and of Mrs. Nickson, of Cranford, Hornby Road, Blackpool. Educated at Rossall, Mr. Nickson studied at the Royal Veterinary College, London, and at Edinburgh University, where he took his degree. He had an extensive practice in Blackpool and the Fylde. The late Mr. Nickson took considerable interest in Freemasonry, and was to have been installed J.W. of the Fylde Lodge at the annual gathering at the Hotel Metropole. The deceased leaves a young widow, the daughter of Mr. J. W. Emmott.

CORRESPONDENCE.

REBATE ON PETROL.

Sir,

It was with great interest I read the letter from Mr. J. Holland in last week's *Record* about agitating for a rebate on petrol. We should be very grateful to him for moving in the matter, and putting it before the profession, for I am of opinion it is a great hardship to the veterinary surgeon not to be put on the same footing as the medical. As I believe most of the veterinary surgeons are now using motor cars, I think we should be up and agitating for our rights, especially now, as we are working for the public good in eradicating tuberculosis. I appeal mostly to the members of the profession in Ireland as we stand a better chance than our brothers in England and Scotland, for by the action of Mr. C. Allen, V.S., Dublin, we in Ireland do not act on juries; therefore I do not see why we should not be treated in like manner in regard to the use of petrol.

I would suggest that we should have a test case tried in the superior courts, and let those members in Ireland who have motor cars contribute to the expense. If all owners subscribe I am sure it would not be much on each. As Mr. Holland first moved in this matter, I would suggest that he should call a meeting and form a committee to take it up. I, for one, would be willing to take my share in the work.—Yours truly,

B. P. J. MAHONY.

Annetfield, Maryborough.

THE UPKEEP OF MOTOR CARS.

Sir,

As promised to several of my veterinary friends, I herewith enclose the cost of my motor for the second year, together with a copy of last year's statement which you can publish if you think of sufficient interest.

It will be noticed that owing to the greater mileage and the better result per gallon, the result works out fractionally better than last year notwithstanding the extra cost of petrol.

4-seater, 12 h.p. Delage.	1st Year.	2nd Year.
Driver's licences, insurance and other taxes	£14 8 0	£15 13 0
Tyres—repairs to same, etc.	40 7 4	50 10 1
Petrol, 445 gals.—oil and grease	32 16 0½	
" 434 gals. "		40 0 10
Other repairs	10 9 3½	8 6 8
Wages and uniform	69 14 0	71 2 0
	£167 14 8	£185 11 7

Mileage—1st year, 9,000; 2nd year, 10,500.

	1st year.	2nd year.
Miles run per gallon of petrol	20.2	24.1
Cost per mile—car only	2.7d.	2.6d.
" including chauffeur	4.4d.	4.2d.
Car, chauffeur, and depreciation at 20 per cent. per annum	5.7d.	5.4d.

—Yours faithfully,

Wigan, October 25th.

WM. WOODS.

THE PATENT MEDICINE TRADE.

Sir,

For some time past we have been, in collaboration with several veterinarians and agriculturists, enquiring into the composition of certain patent medicines, which are, as is well known, vaunted as cures for every, or nearly every, ailment. Yet in many instances the administration of such preparations has fallen under grave suspicion of causing harmful results, or even death.

We know that there is a widespread desire among members of the profession for more knowledge as to the ingredients, value and suitability of these remedies, and we have at the present moment several analyses. Before publishing these we should, however, like to extend our enquiries, and with this view, we shall be glad if our professional colleagues will send unopened bottles, or packets, of the "quack" drinks which, in their experience, are most commonly used in their districts.

Specimens may be sent either to the Chemical Laboratory, Royal Veterinary College, Camden Town, N.W., or 165, Church Street, Kensington, W.—Yours faithfully,

F. HOBDAV.

G. D. LANDER.

A STARVATION OFFER.

Sir,

As it may be of some interest to the profession to see what some County Councils are mean enough to consider a proper fee for work under the Tuberculous Order, I am enclosing you a copy of a recent Order made by the Executive Committee of the Meath County Council. Therein you will see that they offer a fee of 10s. 6d. for each case. Not each visit remember! The 10s. 6d. is to include clinical

examination of the animal, tuberculin test if necessary, microscopic examination, post-mortem, mileage, etc., etc. Everything included, except valuation and all for the large sum of 10s. 6d.

With some of the Inspectors, their district extends fifteen Irish miles from their own premises. Further comment is unnecessary.—Yours faithfully,

AN UNFORTUNATE MEATH VETERINARY INSPECTOR.

COPY OF ORDER MADE BY THE EXECUTIVE COMMITTEE UNDER THE DISEASES OF ANIMALS ACTS FOR COUNTY MEATH, AT MEETING HELD ON 27TH OCTOBER, 1913.

"That on our Clerk receiving notification under Tuberculosis Order, 1913, of any suspected case of tuberculosis under that Order he shall direct the Inspector of the district to inspect such case, and should the Inspector report to him that, in his opinion, the case is one for slaughter, he should forthwith, on behalf of this Committee, give an order to the said Inspector to value the animal, and to have the animal then slaughtered should the said Inspector deem it necessary; that a fee of 10s. 6d. be allowed to each such Inspector in respect of each such case which he is so ordered to inspect, and a further fee of 10s. 6d. should it become necessary for him to make the said valuation; this Order to be subject to the approval of the Department of Agriculture, and to hold good for six months from this date; and, provided that the Inspector accept the terms of this Order, we further consent to make it retrospective from the date the Tuberculosis Order came into force, but under no circumstances shall any mileage fees be allowed."

HUGH J. CULLEN, Secretary.

October 27th, 1913.

DIAGNOSIS.

Sir,

In your issue of the 18th inst. you kindly inserted a letter of mine in which I drew attention to articles appearing in public journals, so written that the authors arrogated to themselves the prerogative of measuring the skill and ability of others by their views and experience on various subjects.

In your issue of the 25th inst., there appears a communication of Mr. Hoare's, in which he, apparently, would like my remarks to be lightly passed over, and he misinterprets what I have written; as for instance, he states that I indicate that I do not think it desirable for a practitioner to admit the limitations of his skill, whereas what I objected to, was the publication of articles in which the writer admits his want of skill in such a manner as to make it appear that necessarily all members of the profession are equally unskillful.

I am aware that human knowledge and skill are limited, and painfully feel my own shortcomings in this respect, but I do not consider I have any right to attempt, in the foregoing manner, to saddle others with my imperfections.

I ask Mr. Hoare—Does he consider anyone has a right to involve others, as above described, in his errors?

Mr. Hoare asks, "Why go to the trouble of conducting post-mortems at all when a definite opinion has been given," or I will put it, when a definite opinion can be formed. I may here state I have always held a post-mortem examination whenever I had an opportunity of so doing, and I am pleased to be able to state that whenever I formed a definite opinion on a case, the cadaveric lesions most satisfactorily corroborated my anti-mortem diagnosis, and frequently I have found most interesting specimens, apart from the ailments for which the animal was suffering, immediately preceding its death, and were in no way connected with its last illness.

Indeed, a fund of knowledge can be derived from post-mortem examinations, especially if the animal has been for some time under the practitioner's observation. In my opinion post-mortem examinations obtain for some a good reputation, and give them confidence in their ability to diagnose cases, and exposes to others their inability to correctly do so, and to both parties should be an incentive to progress in knowledge, the one to uphold his good reputation, and the other to endeavour to gain it.

JAS. MCKENNY, M.R.C.V.S.

"SIR ORACLE."

Sir,

I think the true definition of a Sir Oracle is a man that gives an opinion that can be interpreted in two different ways, or one that ostentatiously makes a statement as a fact that cannot be supported by reason or argument. He is closely allied to the gentleman (described by a certain well-known and esteemed Professor) who makes statements that are "opposed to all science and all authority." Such a man, the professor continued, ought "never to put pen to paper," and as a matter of fact he is wise enough to seldom do so.—Yours truly,

G. MAYALL.

Some of the foregoing has been unavoidably held over.

THE V.M.A. OF IRELAND.—A CORRECTION.

Dear Sir,

At the end of page 268, col. 2, and top of page 269, col. 1, you give the name of Mr. J. P. Machattie as being the winner of the Association's medal. It was Mr. J. P. McNALLY who obtained first place in the examination for the Diploma of M.R.C.V.S. in the Royal Veterinary College of Ireland, and to whom the medal was awarded.—Yours faithfully,

J. J. O'CONNOR, Hon. Sec.

Royal Vet. Coll. of Ireland.

Veterinary Societies—Addresses.

BORDER COUNTIES V.M.S.

Pres: Mr. J. W. Hewson, M.R.C.V.S., Wigton

Hon. Sec. (pro tem.): Mr. F. W. Garnett, M.R.C.V.S.,

Dalegarth, Windermere

Meetings, Second Friday of Feb., June, and October

NORTH MIDLAND VETERINARY ASSOCIATION

Pres: Mr. F. L. Somerset, M.R.C.V.S., Chesterfield

Hon. Sec: Mr. J. S. Lloyd, F.R.C.V.S., Sheffield

GLASGOW V.M.S.

Pres. Principal McCall.

Hon. Sec. Mr. J. Gibson, 16 Overdale Gdns, Langside, Glas.

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Treas: Mr. J. B. Wolstenholme, F.R.C.V.S.,
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Hon. Sec. & Treas: Mr. W. Shipley, F.R.C.V.S.

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COLONIAL SOCIETIES (continued next page)

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V. Pres: Prof. T. D. Stewart, M.R.C.V.S., D.V. SC., SYD.

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Town Hall, Manchester

Hon. Treas. : Mr. E. H. Stent, M.R.C.V.S., Preston-st, Hulme*Meetings*, 1st Thursday in April, June, Sept., & Dec.

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Camden House, High-st., West Bromwich

Meetings, Second Tuesday, Wednesday, Thursday, and

Friday alternately in Feb., May, Aug. and Nov.

NORTH OF ENGLAND V.M.A.

Pres.*Hon. Sec.* : T. T. Jack, M.R.C.V.S., 3 Elmwood Ter, Sunderland*Meetings*, Third Friday, Feb., May, Aug. and Nov.

NORTH WALES V.M.A.

Pres. : Mr. F. Booth, M.R.C.V.S., Colwyn, Denbighshire*Hon. Sec.* : Mr. L. W. Wynn Lloyd, M.R.C.V.S., Carnarvon*Meetings*, First Tuesday, March and September

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Grange Road, Darlington

Meetings, First Friday, Mar., June, Sept. and Dec.

YORKSHIRE VET. ASSOCIATION

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122 St. George's Avenue, Tufnell Park, N.

Meetings, First Thursday in each month, except August and September, 10 Red Lion Square, Holborn, at 7 p.m.

EASTERN COUNTIES V.M.A.

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37 High Street, Lowestoft

Meetings, Second Tuesday, Feb., July and Sept.

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Hon. Sec. & Treas. : Mr. Tom Hicks, M.R.C.V.S.,

Boston Road, Sleaford

Meetings, Second Thursday Feb., June, and October

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34 High Street, Dover

Meeting, Second Wednesday in September, Ashford**WESTERN COUNTIES V.M.A.***Pres.* : Mr. C. E. Perry, F.R.C.V.S., Staple Hill, Bristol.*Hon. Sec.* : Mr. W. Ascott, M.R.C.V.S., Bideford*Hon. Treas.* : Mr. P. G. Bond, M.R.C.V.S., Plymouth*Meetings*, Third Thursday, March, July and November**Irish Branch:***Pres.* : Mr. W. Watson, Municipal Buildings, Dublin*Sec.* : Mr. P. D. Reavy, Leafield, Bundoran, Co. Donegal**CENTRAL V.A. OF IRELAND.***Pres.* : Mr. B. P. J. Mahony, M.R.C.V.S., Maryborough*Hon. Sec.* : Mr. E. C. Winter, F.R.C.V.S., Queen-st., Limerick*Treas.* : Mr. J. F. Healy, M.R.C.V.S., Midleton**CONNAUGHT V.M.A.***Pres.* : Mr. D. Hamilton, M.R.C.V.S., Ballina*Hon. Sec. & Treas.* : Mr. A. J. Moffett, M.R.C.V.S., Galway**VET. MED. ASSN. OF IRELAND.***Pres.* : Mr. P. J. Howard, M.R.C.V.S., Ennis*Hon. Sec.* : J. J. O'Connor, M.R.C.V.S., R.V. Coll., Dublin*Hon. Treas.* : Prof. J. F. Craig, M.A., M.R.C.V.S.,

R.V. Coll., Dublin

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Public Health Dept., City Chambers, Edinburgh

WEST OF SCOTLAND V.M.A.*Pres.* : Prof. John R. McCall, M.R.C.V.S., Vety. Coll. Glasgow*Hon. Sec.* : Mr. J. F. Macintyre, M.R.C.V.S.,

19 Bank Street, Hillhead, Glasgow

Hon. Treas. : Mr. Geo. W. Weir, M.R.C.V.S.,

88 Crookston Street, Glasgow

Meetings, Second Wednesday, May, Oct. and January.**COLONIAL SOCIETIES: (see preceding page)****CAPE OF GOOD HOPE V.M.S.***Pres.* : Mr. J. D. Borthwick, M.R.C.V.S., Cape Town*Hon. Sec. & Treas.* : Mr. R. W. Paine, F.R.C.V.S.**CENTRAL CANADA V.A.***Hon. Sec.* : Mr. A. E. James, Ottawa**VET. ASSN. OF MANITOBA.***Pres.* : Dr. W. R. Taylor, Portage la Prairie*Hon. Sec. & Treas.* : Dr. F. Torrance, Winnipeg**NATAL VETERINARY MEDICAL ASSOCIATION.***Pres.* : Mr. H. Watkins Pitchford, Govt. Bacteriologist,

Pietermaritzburg

Hon. Sec. & Treas. : Mr. J. B. Collyer,

Vety. Inspector Natal Police, Pietermaritzburg

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THE VETERINARY RECORD

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FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

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"THE RECORD."

We feel that it is due to our readers, and especially to those of them who have enquired on the point, that they should know something of future arrangements. For the present no further change in the management is contemplated. It is an open secret that Mr. Hunting ceased active work in 1907, when he took up the appointment under the London County Council; and for the last four years has contributed only occasionally to our pages, his severe illness, followed by a long period of failing health, rendered that almost a necessity. Those who have worked with him are continuing the work, and his known views on most professional matters will be followed so far as they are not affected by changing conditions of professional work. It is not unlikely that other men may join the literary staff in the near future; and in all respects *The Record* will continue as heretofore. A weekly journal for the profession."

THE INTERNATIONAL VETERINARY CONGRESS.

The report of the meeting of the Organising Committee of this Congress, which we printed last week, reveals both good and bad progress. A great step forward has been made by obtaining recognition of the Congress from the Government. For the State to make a financial grant to any such Congress as this would be contrary to all precedent; and no one hoped that the rule might be broken in our favour. But the Foreign Office is encouraging the Congress and inviting delegates, and has promised to give a reception to them; and this is about as much as could be expected from a British Government. It will increase the number of foreign delegates, and so far make for success.

On the other hand, the Treasurer's report shows that subscriptions have fallen off woefully during the last three months. More than £300 is still required to reach the absolute minimum that has been estimated as necessary; and there is every indication that the Congress will be a record one and the minimum will be insufficient. The Treasurer's report should be read: there are two points in it which cannot be over-emphasised. About £3 will be spent upon each member joining the Congress; and therefore, unless he considerably exceeds his membership subscription of £1, he will be a source of actual loss. Again, the present total of £3,180 has been subscribed or promised by

less than 300 men—that is, more than nine-tenths of us have not yet offered a shilling. When so few of us have brought the Congress to within sight of success, as it now is, surely the great majority will do the little still required to make success assured. It is true that we cannot all afford £3, but almost all can afford a little.

THE PATENT MEDICINE TRADE.

Some years ago *The British Medical Journal* undertook a long series of analyses of patent medicines. The results were published in a small book, which did a great deal of good. The same thing has long been needed in the case of proprietary medicines for animals, and Mr. Hobday and Prof. Lander have done a service to the profession by undertaking it. All the assistance they ask, in their letter published last week, is that members should supply them with unopened samples of the animal medicines most used in their districts—they will do the rest. Practitioners should respond readily to this, and the result may be really valuable. Some may hesitate to send particular preparations on account of the possibility that they have been analysed already, but no doubt the originators would willingly answer queries on that point.

SNAKE BITE (?)

A case which I have been attending recently has caused me some mystification, and I record it in the hope of receiving from your readers either corroboration of my suspicions, or a more satisfactory explanation of such unusual symptoms.

The cow was turned out one afternoon about five weeks ago, on a meadow which sloped down to a more wooded part with a good deal of undergrowth. Next morning the cowman found her laid, and great difficulty was experienced in inducing her to get up and walk home.

The cow moved very stiffly, and the left hind-quarter of the udder was practically black. The other three quarters were quite normal. On arrival home, the cow fell down and did not rise for some days, appearing partially paralysed.

The original diagnosis was cold, but a closer examination of the affected quarter showed a hole about half-way up the teat. It was just as if a piece had been punched quite out, and was approximately the diameter of the ordinary teat opening, which was of course in the usual place.

The cow showed signs of severe systemic disturbance for some days, but eventually, after the

quarter had been injected with Chinosol solution, got much better in general health.

The affected quarter became gangrenous, and after a time the teat, and practically the whole of the gland substance' sloughed away, leaving a large cavity which has now almost healed up.

At no time was there any alteration in the other quarters, and they secreted milk apparently normal in all respects. I am strongly of the opinion that the condition is attributable to snake bite, although nothing definite could be traced.

The peculiar punched-out hole in the teat, coupled with such a severe disturbance of general health, seems distinctly to point to this conclusion.

SYDNEY SMITH, JR.

Lowestoft, Oct, 22nd.

DIAGNOSIS OF TUBERCULOSIS.

Subject.—A red shorthorn heifer, which was suckling a calf. On examination the pulse, temperature, and respirations were normal. She was emaciated and hidebound, had had diarrhoea a few days before my examination. No cough was present, and on auscultation the lungs seemed normal. I proceeded to make an examination per rectum, and could feel some of the grapes on the rumen, as described by Mr. Broad, of Marlborough, in *The Record* of September 27th, 1913.

I advised the owner to report the case, but he refused and sent her directly to the knacker. Post-mortem showed her to be affected with tuberculosis of the peritoneum. I find on reference to Friedberger and Fröhner, Vol. II., page 361, the following method described:—"The presence of tuberculous proliferations of the peritoneum may be proved by introducing into the rectum, or by pushing the hand under the last false ribs."

The refusal of the owner to report the case, and the fact that he had the heifer destroyed there and then, illustrates one of the difficulties in carrying out the recent Tuberculosis Order.

I should like the opinions of the readers of *The Record* whether the owner and myself were liable to prosecution for failure to report. I am certain if I had done so I should have lost my client. Personally, I do not think it was necessary to report this case, as the animal was destroyed at once at the owner's loss entirely.

I should like to thank Mr. Broad, also, for his hint as to rectal exploration in these cases.

"NEMO."

ABSTRACTS FROM FOREIGN JOURNALS.

ENORMOUS HÆMATOMA OF THE SPLEEN IN A DOG,

Prof. Joest, in an annual report of the work of the Royal Veterinary High School of Dresden, records the following case. The subject was a male mongrel dog, about 53lbs. in weight, which was destroyed on account of a tumour in the abdominal cavity, associated with abdominal dropsy.

Post-mortem, the abdominal cavity was found to contain from 2 to 3 litres (roughly from 3½ to 5½ pints) of a reddish transudate. The ventral surface of the spleen was occupied by a gigantic tumour-like body, exceeding the size of a man's head, weighing about 11lb., and of an irregular knobby shape. The colour of the tumour was dark red, and its consistence was firm. Its upper surface was united to the omentum. The size of this body caused the spleen, which was otherwise normal, to appear like a small appendage of the tumour.

Upon section, this apparent tumour proved to be not a tumour at all, but a hæmatoma. It contained coagulated blood, which was older at its peripheral parts and fresher in the central portions.

Joest's view of the case is that an effusion of blood had taken place gradually, till it amounted to more than a quarter of the actual body weight. The total quantity of the effused blood was about triple that normally present in the animal.—*Munchener. Tier Woch.*

METALLIC LIGATURE OF THE UMBILICAL CORD.

Hursch maintains (*Schweizer Archiv.*) that as a general rule the metallic ligatures employed in surgery present one great advantage over silk threads, etc., viz., that by reason of their impermeability, they oppose the passage of germs into the wounds. Hursch has used metallic ligatures with very good results for the ligation of the umbilical cord. By this method he not only uses an aseptic apparatus, but also, on account of the powerful constriction which it affects, he hinders the passage of external germs into the umbilical vessels. Properly applied, the metallic ring acts upon the umbilical cord much as castration clamps upon the spermatic cord.

Hursch uses a special pair of pincers, between the teeth of which he places a metal ring. He passes the umbilical cord into the ring, and compresses the latter with the pincers until it assumes the form of a clamp about 3/5 inch long by from 1/12 to 1/8 inch wide. Immediately after applying the apparatus, he divides the cord very close to the inferior face of the clamp, and paints the region with an alcoholic solution of pyoktannin.

The procedure is a very quick one, and has been most favourably received by owners. Hursch considers that the simple ligature of the umbilical cord, as it is generally practised by breeders, presents many more disadvantages than advantages, for it very often entails complications from infections of the cord. He has found that, in regions where the ordinary ligation of the cord has been practised, half the foals have shown infection of the cord, and the farmers in consequence have given up the method.

It remains to be added that a ligature is dangerous when it is not applied very near to the abdominal wall, because it then exposes the portion of the cord situated above it to infection. On the other hand, it is advisable to abstain from washing the cord with antiseptics, because these impede the rapid mummification of the cord.—*Annales de Méd. Vét.*

EXTENSION OF AN INFLAMMATION OF THE MIDDLE EAR INTO THE CEREBELLUM IN A SHEEP.

Erhardt, a veterinary practitioner of Hersbruck, records the case of an ewe which came under treatment on account of the following symptoms. The head was continuously held low, and inclined to the left. The ewe maintained herself on her limbs with difficulty; and, if pushed towards the left, she fell to the ground and made convulsive movements with both fore feet.

The probable diagnosis arrived at was that of a cœnurus cyst; which seemed likely, from the symptoms shown, to be deeply situated. An exploratory trephining was therefore decided upon.

The skull was trephined about four-fifths of an inch from the medial line, at about the highest point of the left cerebral hemisphere. No trace of a cyst could be found. The ewe was then immediately slaughtered, and a post-mortem examination was carried out. This revealed an abscess in the left half of the cerebellum, filled with greenish pus, and in connection with the osseous auditory canal.

The owner then imparted the information that the ewe had been bitten on the ear by a dog some weeks before, and had afterwards shown an inflammation of the ear. The abscess was therefore the result of an extension of inflammation from the middle ear.—(*Munchener Tier. Woch.*)

TWO CASES OF TUBERCULOSIS OF THE BRAIN.

Bergschicker, of Bartin, records the following cases;

An ox about six months old was operated upon on account of entropium of one upper eyelid, with a consecutive chronic keratitis. Healing by first intention took place, and the stitches were removed on the eighth day. The keratitis seemed to be clearing up.

Eight weeks later, Bergschicker found the ox with his body in an attitude resembling that of tetanus, and pressing his head against the wall. The cornea of the eye which had been operated upon had now cleared to some extent; and its inner side was seen to be beset with small nodules, doubtless of tubercular origin. Bergschicker diagnosed generalised tuberculosis, especially affecting the head and cerebral meninges. The animal was accordingly slaughtered.

Post-mortem, most of the organs were found free from tuberculosis, the spleen alone showing small isolated tubercular nodules. The carcass was well nourished. A moderate number of tuberculous centres, up to the size of a pea, were found in the pulmonary and mesenteric lymphatic glands.

All the membranes of the eye and the cerebral membranes, were beset with tubercles the size of millet seeds. The cerebral substance was quite free from tubercles.

It was impossible to decide whether the entropium had been the primary affection, and the vascularisation accompanying the consecutive keratitis had favoured a tubercular infection of the eye,

or whether the process had been exactly the reverse, and the eye had been infected from the interior of the body.

The latter view seems probably the correct one. At any rate, entropium and a diffuse opacity of the cornea were all that could be seen at the time of operation.

The second case was a cow, about ten years old, which had given birth to a living calf four weeks before her time. The after-birth had been retained, but this was said not to have specially influenced the general condition. Fourteen days after calving the cow was found in the morning lying apathetically with her head turned upon her neck; and, when the owner attempted to get her up, she fell into violent clonic-tonic convulsions of all the muscles of the body.

Bergschicker saw her ten minutes after the first seizure, and found her in the same condition. The frequency of the heart and respirations was increased. The temperature was normal. The convulsions continued to become more violent, without seeming to commence from any distinct group of muscles, while the pauses between the spasms gradually became shorter. Bergschicker was at a loss for a diagnosis, mentioning epilepsy, cerebral tumour and cerebral hæmorrhage as possibilities. The cow was slaughtered after an hour. The blood was almost black, and spurted with great violence from the cervical vessels at slaughter; and the contraction of the muscular system did not relax till some minutes after bleeding had been completed.

Post-mortem, a sapræmic metritis was found. In addition, the parietal pleuræ and parietal peritoneum, with the organs they contained, showed a moderate number of caseous tubercles the size of large peas. The under side of the diaphragmatic pleura bore a larger tuberculous growth. One mediastinal gland showed a caseous tuberculous nodule the size of a large millet seed. The remaining organs were free from tuberculosis, with the exception of the cerebellum, in which there was a caseous tuberculous centre larger than a pea, pressing upon the corpus medullare.—(*Berliner Tier. Woch.*)

W. R. C.

LIST OF ACCREDITED VETERINARY COLLEGES, U.S.A.*

The following is a list of accredited veterinary colleges, graduates of which are eligible for the Civil Service Examination for the position of Veterinary Inspector in the Bureau of Animal Industry, under the terms of the regulations governing entrance to the Veterinary Inspector Examination (Bureau of Animal Industry Circular 150):—

Alabama Polytechnic Institute, College of Vet. Med.
Chicago Veterinary College.
Cincinnati Veterinary College.
Colorado State College, Division of Veterinary Medicine
George Washington University, College of Vet. Med.
Grand Rapids Veterinary College.
Indiana Veterinary College.
Iowa State College, Division of Veterinary Medicine.

* This, and two following abstracts are from the Annual Report, Bureau of Animal Industry, Dept. of Agric., U.S.A.

Kansas City Veterinary College.
 Kansas State Agricultural College, Vet. Department.
 McKillip Veterinary College.
 New York-American Veterinary College.
 New York State Veterinary College.
 Ohio State University, College of Veterinary Medicine.
 St. Joseph Veterinary College.
 San Francisco Veterinary College.
 State College of Washington, Veterinary Department.
 Terre Haute Veterinary College.
 United States College of Veterinary Surgeons.
 University of Pennsylvania, School of Vet. Medicine.
 University of Toronto, Ontario Vet. College to include only those graduated during or prior to 1897.

Graduates of the following named colleges, which are not now in session, will be admitted to examinations:—

Columbian University, Vet. School, Washington, D.C.
 Harvard University, School of Vet. Med. Boston, Mass.
 McGill University, Vet. Dept., Montreal, Canada.
 National Veterinary College, Washington, D.C.

Graduates of the following named foreign colleges will be admitted to examinations:—

Glasgow Veterinary College, Scotland.
 Royal Veterinary College, London, England.
 " " of Ireland, Dublin, Ireland.
 Royal (Dick) Veterinary College, Edinburgh, Scotland.
 The New Veterinary College, Liverpool, England.
 Veterinary College of Lemberg, Austria.
 University of Melbourne, Veterinary School, Melbourne, Australia.

BRAHMIN CATTLE IN TEXAS.

Surra was found in an importation of zebu cattle shipped from Bombay, India, April 27th, 1906, but it was not allowed to escape from the quarantine. This occurrence not only served the purpose of an additional test of the efficiency of our international quarantine service, but at the same time gave the bureau actual experience with this disease, which from time to time has wrought such havoc among stock, especially horses, in oriental countries. It appears that over 30 years ago Mr. A. H. Pierce introduced into Southern Texas a number of so-called Brahmin cattle from India which were successfully crossed on the native cattle, with the result that their progeny were relatively free from ticks, while the native stock in the same pasture would be literally covered with these pests. As a consequence the Brahmin grades thrived under the same conditions which served to deplete the native stock. They not only withstood the semi-tropical weather conditions of the Gulf coast section, but their thin, tough skin, very short hair, and the seeming repugnance of their sebaceous secretion of insect life, rendered them immune to heavy tick infestation, while at the same time they were immune to Texas fever, their natural *habitat* being a tick-fever country.

PHENOLIZED BLOOD IN INOCULATIONS.

The use of carbolized or phenolized blood, as described in the last annual report, has been continued during the year. The later results confirm the earlier observations in showing that the virus of hog cholera may remain in contact with comparatively strong solutions of phenol for weeks without noticeable impairment of its virulence. There seems to be little doubt that phenolized blood will gradually come into general use in connection with the "simultaneous method," as the presence of the phenol prevents the development of putrefactive bacteria and does not destroy the virus of hog cholera. This will enable practitioners to keep virus on hand for a reasonable length of time.

Considerable study has been given to the effect of different preservative agents on the virus of hog cholera as contained in the blood of sick hogs. In addition to the con-

tinued study of phenol, much attention has been devoted to thymol and formaldehyde. The results with regard to these, however, are not yet complete. Aside from the desirability of having some means of preserving the virus for use in simultaneous inoculations, it is also desirable to have some means of preserving disease-producing blood which is to be used later for hyperimmunization. Phenol is not satisfactory for this purpose, but it is hoped that some efficient germicide which is efficient against ordinary bacteria, but which does not materially affect the virus of hog cholera, will be found suitable for this purpose. Some attention has also been given to different preservatives for serum. These observations are not yet complete.

F. E. P.

ANNUAL REPORT OF THE CIVIL VETERINARY DEPARTMENT, NORTH-WEST FRONTIER PROVINCE, FOR THE YEAR ENDING 31ST MARCH, 1913. [ABSTRACT.]

Under the head of "General Administration," the report states that "Mr. Woodley held the appointment of the Superintendent, Civil Veterinary Department, North Punjab and North-West Frontier Province, throughout the year 1912-13. Mr. Woodley was on tour in the North-West Frontier Province for 105 days, and travelled 2094 miles by rail and 1419 by road. He also held charge of the North Punjab Circle, and was on tour in that Province for 57 days.

The Superintendent inspected all the veterinary hospitals (15), and the offices of all the itinerating veterinary assistants in the Province.

Nine tonga lines were also inspected.

He attended and acted as a member of the Judging Committee at the following fairs and shows:—Haripure Cattle Show, Peshawar, Kohat, Bannu and Dera Ismail Khan Horse and Cattle Shows.

The Superintendent personally checked inoculations on three occasions in the Peshawar District, and once in the Hazara District. He attended an outbreak of surra in the Malakand Agency. He also checked the work of veterinary assistants in various districts. He interviewed the Revenue Commissioner twice for discussing official matters. As usual, during the course of his tours, the Superintendent interviewed District and Agency officers with a view to discussing veterinary matters, and inspected bulls and stallions where they were.

He also made an extended tour in the Hazara District in connection with the merino sheep-breeding.

He made the following purchases:—Three donkey stallions from the Hissar Farm for the Province, two bulls from Chakwal for the Hazara District, and twenty dumba sheep for the Civil Veterinary Department, Eastern Bengal and Assam.

TREATMENT OF DISEASES.

During the year under report 14,045 cases of epidemic diseases were reported, of which 3496 proved fatal, compared with 19,674 cases and 5245 deaths in the previous year.

One hundred and twenty-four pathological specimens were received from the subordinate veterinary staff, and they all were examined by the Superintendent, as compared with 51 for last year.

CONTAGIOUS DISEASES—EQUINE.

These were reported from all the districts and agencies. In all 368 cases were reported, of which 11 proved fatal, compared with 392 cases and 19 deaths in the previous year. These figures relate to non-selected districts only.

Glanders.—Five cases of glanders occurred against 11 last year. The diagnosis was confirmed in three cases,

and the animals were destroyed. The remaining two died before they could be examined by a veterinary practitioner.

One case of anthrax was reported from the Kohat District. The diagnosis was confirmed microscopically by the Superintendent.

Surra.—Twelve cases were reported during the year under report, of which two were reported to have died. Diagnosis was confirmed by microscopic examination.

Other Contagious Diseases.—Under this head 350 cases were reported, of which three died, against 358 cases and eight deaths last year. These include mange, strangles, tetanus and bursati.

CONTAGIOUS DISEASES—BOVINE.

During the year 1545 deaths and 9890 cases were reported, against 1829 deaths and 11,509 cases last year.

Rinderpest appeared in four districts of the Province. In all 1755 cases were reported, of which 708 died, against 1394 cases and 707 deaths last year. The disease was most prevalent in the Peshawar District. During the year 15,266 animals were inoculated in 61 outbreaks against 8,848 animals in 38 outbreaks last year. Rs. 2600 were paid by Government on account of cost of anti-rinderpest serum.

Hæmorrhagic Septicæmia occurred in five districts. 637 cases were reported, of which 575 proved fatal, against 997 cases and 888 deaths last year. 731 healthy animals were vaccinated against this disease in nine villages where it usually occurs. Last year 189 animals were vaccinated in twelve villages.

Foot-and-Mouth Disease occurred in four districts and one agency. Kurram Agency suffered the most. In all 7,117 cases were reported, of which 15 died, against 8,827 cases and 48 deaths last year. As usual, the necessary preventive measures were adopted by the subordinate Veterinary staff.

Black quarter was reported from four districts; 138 cases occurred and 124 proved fatal compared with 194 cases and 166 deaths last year. 2,700 healthy animals were vaccinated against black-quarter. None were performed last year. The disease did not re-appear in any of the villages where the vaccinations were performed, hence the efficacy of the vaccine cannot be judged.

Anthrax. No cases in cattle were microscopically diagnosed during the year.

Other Contagious Diseases. 243 cases of other contagious diseases (including mange, tuberculosis, tick fever, tetanus, gilliar, and actinomycosis) were reported, of which 123 died.

CONTAGIOUS DISEASES—OTHER ANIMALS.

Disease.	Attacked.	Died.
Rinderpest	2255	1587
Foot-and-Mouth	732	35
Hæmorrhagic septicæmia	193	190
Anthrax	2	2
Other contagious diseases*	555	126
Total	3737	1940

Compared with 7773 cases and 3397 deaths last year.

* Mange, rabies, fowl cholera, distemper, liver rot, camel-pox, sheep-pox, and contagious pleuro-pneumonia.

Treatment of disease on tour. During the year 1377 villages were visited by Veterinary assistants on tour, and 10,944 animals were treated. Last year 1352 villages were visited and 12,671 animals treated. 517 castrations were performed, chiefly in equines, as compared with 584 last year.

VETERINARY HOSPITALS.

During the year there were 19 Veterinary hospitals in the Province, and the total number of animals treated in these institutions was 49,465. Last year 48,134 cases were treated in the same number of hospitals.

Peshawar District. Peshawar Hospital was practically completed during the year, but additions are still required. When complete it will probably be the finest hospital in Northern India. Charsadda Hospital is complete. Mardan, Swabi, and Nowshera still require operation and cattle sheds.

Hazara District. Abbottabad Hospital.—Dog kennels and segregation stables are required. Mansehra Haripur also require segregation stables, but are otherwise complete.

Kohat District. Kohat and Hangu hospitals are complete. Teri Hospital requires operation, cattle shed and stallion stables.

Bannu District. Bannu Hospital is complete. Sarai Naurang Hospital still requires an operation shed.

Dera Ismail Khan District. Dera Ismail Khan Hospital is complete. Chaudhwan Hospital requires segregation and stallion stables. A new hospital is required at Tank, as the original one was required for the Border Military Police, and the work is now being carried on in a temporary building.

Malakand Agency. Dargai Hospital is sufficient for the requirements, but a stallion stable is wanted.

Kurram Agency. The Parachinar Hospital is still in need of contagious ward and dog kennels.

Tochi Agency. Miranshah Hospital is sufficient for the requirements, but a separate stallion stable is indicated.

On the whole the progress of construction has been satisfactory, and in a few years all the hospitals should be complete, but many will annually require extensions. The treatment at all the hospitals is free.

[Space does not permit any details under the heads of Breeding Operations, Fairs and Shows, Subordinate Establishment. Under Expenditure, the annual cost is put at "Rs. 55,045, against Rs. 39,682 in the previous year. The increase appears chiefly due to the expenditure connected with the horse and cattle shows held during the year under report."]

GENERAL REMARKS.

The results on the work of the year may be considered as most satisfactory. A similar remark was made last year, but during the year under report the number of animals attacked with contagious diseases has decreased by 5,629 cases, and the mortality therefrom by 1,749. Breeding operations, chiefly horse and sheep, have improved and increased.

Preventive inoculations and vaccinations show a large increase on previous years, and in most places the people readily adopt it. In some cases it appears that inoculations were begun too late, and by that time most, if not all, the susceptible animals had died or taken the disease and only the immune animals were left, consequently in such cases inoculation is of little use. Reports of outbreaks are often received too late, and the veterinary assistant through ignorance or carelessness inoculates when it is unnecessary, and hence a certain amount of serum is wasted. Statistical results of inoculations in these cases look very well on paper, but probably they would be different if the inoculation had been started at the very beginning of the outbreak. More promptness in reporting by the patwari, the early performance of inoculation, and strict superior supervision are the three great factors necessary for better results.

Horse-breeding is flourishing, and great keenness is shown by the people of Bannu, Peshawar, and the

Kurram Agency. The standard scale of horse stallions has been increased by one in the Kurram Agency. Bannu and Dera Ismail Khan also require an extra stallion each. The Political Agent of the Kurram Agency intends holding an annual horse and cattle show in future. This Agency is very subject to the ravages of cattle diseases, and consequently the veterinary assistant at Parachinar is frequently having to go on tour. The Superintendent is of opinion that an itinerating veterinary assistant is urgently required for this work with his headquarters and a branch dispensary at Saddar or Alizai. A new stallion stable consisting of one horse and one donkey, has recently been opened at Alizai.

The thoroughbred Australian stallion which was supplied to the Bannu District through the Quarter-master General, was found on arrival to be hereditarily unsound, and consequently he was not allowed to be used for stud purposes. An enquiry is being made by the Deputy Commissioner.

Three donkey stallions were supplied by the Hissar Farm during the year, at a cost of Rs. 600 each; the price previous to this used to be Rs. 450. They were a poor lot of animals, and the only ones available at the time. Donkeys similar to this lot can be got in the local market for about Rs. 150 each. One of the Hissar bred donkeys received in February, 1911, had to be cast as he refused to cover, and one out of the new lot received in December, 1912, is a similar failure. This is the third case which has come under the notice of the Superintendent within the last year.

The Superintendent toured in Kaghan during last June and July in connection with the merino sheep-breeding experiments, and submitted his report on the same to the Revenue Commissioner. The breeding results were most encouraging and satisfactory. There were then close on 300 cross-bred lambs. The Dhariwal Woollen Mills Company, to whom a sample of the cross-bred wool was sent, expressed the opinion that it was the finest sample they had yet seen in India. The question of opening up a wool trade with Kaghan is being considered by this company, and they were kind enough to offer Rs. 200 for prizes in connection with a sheep show to be held during the coming year. This offer was accepted and agreed to by the Deputy Commissioner, Hazara, but unfortunately the show had to be cancelled, as the Superintendent, Civil Veterinary Department, could not perform the journey owing to objections from the Accountant-General's Office. The matter is most regrettable, as the experiment should receive every encouragement in the initial stage, which has so far proved very promising.

The Superintendent again records the unsatisfactory way in which he has to perform his work and carry out inspections in such a hurried manner owing to the large extent of his circle both in the Punjab and the North-West Frontier Province, but he notes with pleasure that a separate officer will probably be sanctioned during the coming year for the North-West Frontier Province alone.

V. DE V. H. WOODLEY.

*Superintendent, Civil Veterinary Department,
North-West Frontier Province and North Punjab.*

The covering letter by Lieut.-Col. C. B. Rawlinson, Agent to the Governor-General, N.W. Frontier Province, concludes:—

"The question of the appointment of a whole-time Superintendent for this Province is still under consideration by the Government of India; it is understood that sanction to the appointment will be shortly announced.

"In conclusion the Chief Commissioner has much pleasure in acknowledging the excellent services rendered by Mr. Woodley during the year."

ANNUAL REPORT OF THE VETERINARY INSPECTOR NEWCASTLE-ON-TYNE FOR THE YEAR 1912.

[ABSTRACT]

TO ALDERMAN SIR HENRY W. NEWTON, J.P., L.F.P.S.,
Chairman of the Executive Committee under the
Diseases of Animals Acts of the Corporation of New-
castle-upon-Tyne.

Sir,—I have the honour to present this Annual Report, on the duties performed under the Contagious Diseases of Animals Acts for the year ending Dec. 31, 1912.

DISEASES OF ANIMALS ACTS, 1894-1912.

During the past twelve months nineteen outbreaks of contagious disease (as defined by the Acts) occurred amongst the animals within the City, as compared with three during the previous year.

[After remarks upon anthrax and the scope of the Tuberculosis Order, 1913].

Foot-and-Mouth Disease. On Monday, July 1st, the disease was discovered in several of the herd of 36 cattle in a field at Benwell. The foot-and-mouth disease restrictions were about to be removed and the district entirely freed on or about the 20th September. On the 17th September, however, the Veterinary Inspector was called to a farm in the Walker district to examine some swine which were ill. Several of these were found to be suffering from foot-and-mouth disease.

No new swine had been brought to the farm at Walker for at least seven months prior to the outbreak, yet the disease occurred and spread rapidly amongst them before any cattle were obviously ill. A new cow had been purchased from the Hexham district only a week prior to this outbreak. When the owner purchased the cow at Hexham he was for some considerable time in close company with another farmer who, it subsequently transpired, had a number of cattle at home suffering from foot-and-mouth disease. There are reasonable grounds for suspecting that, in this case, the disease was conveyed, by the farmer's clothes, from the infected cattle and transmitted by the second farmer to his premises at Walker, for on returning home he immediately handled some of his young pigs. Within the next four days several of these young pigs were reported ill, hence the discovery of the outbreak. The restrictions were finally removed by an Order to that effect on the 26th November, 1912, the district being thus free from restrictions as to the movement of cattle for the first time since the last day of June, 1912.

During the period that the Durham and Northumberland and the Newcastle and District (Foot-and-Mouth Disease) Orders of 1912 were in operation, 2,800 licences were granted within the city for the removal of stock; and 125 duplicate licences were received and inquiries made in accordance with the Orders under which they were granted.

Modern Abattoirs. During the period of operation of the Foot-and-Mouth Disease Orders requiring animals to be licensed for removal from the cattle market direct to slaughter houses within certain areas only, there was ample evidence of the necessity of Public Abattoirs wherein cattle should be slaughtered and the carcasses subjected to official inspection. This would be valuable not only from the Agricultural point of view by tracing the source of animal diseases, but also from the Public Health point of view; e.g.—a number of uninsured cattle (cows) were slaughtered within the city by country butchers, several being found to be extensively diseased (tuberculosis), and were condemned and destroyed as unfit for food. Had these animals not been slaughtered within the city, it is almost certain that their diseased carcasses would have been disposed of for human con-

sumption in precisely the same manner as is well known to many traders in cattle of that class.

Swine Fever.—During the year one outbreak of swine fever occurred in a herd of 22 swine on a farm within the city. The premises were promptly placed under movement restrictions and dealt with in accordance with the requirements of the Swine Fever Order of 1908. During the year, 1375 duplicate licences, granted under the Swine Fever (Regulation of Movement) Order of 1908, have been received from various Local Authorities and the necessary inquiries made concerning the swine so moved. Within the same period 9343 licences have been granted within the City for the removal of swine.

Parasitic Mange. During 1912 sixteen outbreaks of parasitic mange occurred within the city, some 35 horses being found affected with the disease.

Exportation of Horses. For the purposes of the Exportation of Horses Order of 1910 (No. 2) and the Horses (Importation and Transit) Order of 1912, the export animals, vessels, fittings and the cleansing and disinfecting, etc., of the latter, have been regularly inspected. Suggestions for the improvement of embarkation of the animals and the prevention of injury to animals' heads whilst on board (overhead anti-concussion beams) have been made, and are now under consideration by the shipping company. During the year 1912 there were 3,625 horses presented at the quayside for examination prior to embarkation. Of these 119 were rejected as being unfit, permits for the remaining 3506 being granted by the Board's Veterinary Inspector.

The Sheep-Dipping (Scotland and North of England) Order of 1907. Under the above Order certificates have been granted from time to time (some 50 in all) to persons removing sheep to other markets.

Vessels arriving from other parts of the Kingdom. During the year 51 visits were paid to vessels arriving coastwise for the purpose of the Animals' (Transit and General) Order of 1912. The numbers of animals landed at the quayside during the year were 561 horses, 607 cattle, 1,095 sheep, 7,011 swine, and 1 calf.

Horse and Cattle Fairs and Weekly Horse Sales. For the purposes of the Diseases of Animals Acts generally, the cattle and horse fairs on Town Moor and in the Cattle Market have been regularly visited, whilst the weekly horse saleyards and auction marts have been visited regularly for the purposes of the Glanders and Farcy Order of 1907 and the Parasitic Mange Order of 1911.

Cattle Market. The weekly cattle markets have been regularly visited, and the animals subjected to regular and frequent inspections. The following table shows the numbers of cattle, etc., exposed for sale therein.

Year.	Cattle.	Calves.	Sheep.	Swine.
1892	105,088	7,192	373,639	30,798
1902	100,358	6,928	354,636	37,918
1912	48,222	4,646	227,046	32,562

In 1910 there were 77,347 cattle, and in 1911, 70,337.

Cattle and Licensed Pig Lairs. There are thirty cattle and licensed pig lairs within the city, and for the requirements of the Swine Fever Order of 1908, and the Market and Sales Order of 1910, 1,134 visits to them were paid during the year.

Railway Waggons and Cattle Docks.—For the requirements of the Animals' (Transit and General) Order of 1912, the Railway Cattle Docks have been regularly inspected (152 visits being paid) during the year. The same remarks apply to the railway waggons.

The Late Alderman J. Armorer Baty. I wish here to record my appreciation of the great encouragement, support, and sound advice given to me from time to time by Alderman Baty, the late Vice-Chairman of the

Sanitary Committee, and as Chairman of the Cattle Trade Committee. In the work of combating animal contagious diseases within the city, the late Alderman Baty rendered a service, extending over many years, of which any local authority may feel proud.

Your obedient servant,

THOMAS PARKER, F.R.C.V.S.

Vety. Inspector and Inspector of Meat, etc.

Town Hall, Newcastle-upon-Tyne.

June 30th.

VICTORIA VETERINARY BENEVOLENT FUND.

The quarterly meeting was held at 10, Red Lion Square, London, on Thursday, October 9th. Present: Messrs. Trigger, Garnett, Slocock, Spicer, Wharam, Dunstan, Sumner, West, and the Secretary.

The minutes of the last meeting were read and confirmed.

THE SECRETARY'S REPORT.

I have only a little matter to report for this quarter.

Financial. I estimate our expenditure for the following three months to be about £85 for relief. We have in the bank a sum to meet this of £80.

There will be dividends on consols, and Norwich Corporation stock some £27.

This will be all the money available to pay for printing, postages, and incidental expenses for the past year.

Included in the sum of £80, is the sum of £27 donations, which, according to Rule 4, must be invested.

The subscriptions in arrear amount to £40.

You will see by this statement that our financial position is by no means satisfactory. I hope, however, it may be possible to obtain a sufficient number of new subscribers to help us over our difficulties.

Old Recipients. I have received communications with reference to one of our recipients, and am making inquiries as to the justification of the contents. In the meantime I have suspended the monthly grant.

During the following three months it is my intention to again verify the position of all our recipients. At the present time I think all grants should be continued.

In the case of Mrs. W., I have letters from Mr. Reavy pointing out the urgency of a suitable education for the children, and would suggest that the grant in this case might be increased from 5s. to 10s. per week. You will remember this case was referred to us by the Executive Committee in Ireland.

I have had one further application for relief, which, after making every enquiry, I cannot recommend for the consideration of the Council.

I am in communication with the National Veterinary Benevolent and Defence Society, and in no case is there any overlapping, but as a matter of fact a cordial co-operation.

I must still express a wish that every effort be made to give publicity to the work of our Fund, and beg of subscribers to remit the subscriptions now in arrear to save further expense in literature and postage.

On the motion of Mr. Garnett, seconded by Mr. Sumner, the question of the continuation of a grant to one of the old recipients was held over pending further enquiries to be made by the Secretary.

An application for an increased grant to one of the old recipients was duly considered. Proposed by Mr. Wharam, and seconded by Mr. Slocock, the financial position of the Fund was such that no increase could be made in the grant.

The report of the Secretary was confirmed, subject to the foregoing resolutions.

Correspondence from Colonial members, Messrs Reakes and Amos, was read.

The members of Council cordially recognise the kind offers of help, and desired the Secretary to keep in touch with the correspondents with a view to the development of further help and assistance from abroad.

LIST OF NEW SUBSCRIBERS FROM JULY, 1913.

	£	s.	d.
Balden, John, Stocksfield-on-Tyne	5	0	0
Amos, S. T. A., Durban	2	2	0
Barnes, C. T., Cheadle, Stoke-on-Trent	10	6	
Baker, A., Lismacue, Bansha, Ireland	10	6	
Arnold & Son, Giltspur Street, London	2	2	0
Grypsperdt, L. G., Croydon	10	6	
Heney, Fred. A., Dublin, increased to	1	1	0
Blackwell, W. E., Towcester, Northants	10	6	
Heatley, T. G. Woodbridge, Proceeds of Bowls Tournament	5	4	6
Waters, W., Blofield, " " "	2	0	0
Wilkinson, H. E., Martham. Tournament for the Victoria Veterinary Benevolent Bowling Cup	1	5	0
Smart, W. W., (Donation)	1	1	0

SCOTTISH METROPOLITAN VETERINARY MEDICAL SOCIETY.

A meeting was held at the Royal (Dick) Veterinary College, Edinburgh, on Saturday, 25th October, at 3 p.m. The members present were: Professors J. R. U. Dewar, A. Gofton, A. Wilson, and T. C. Matheson, Edinburgh; Messrs. A. McKenzie, Kirkcaldy; J. Cameron, Jun., Berwick-on-Tweed; J. Aitken, Jun., Dalkeith; A. Baird, Edinburgh; T. M. Inglis, Forfar; J. P. Hamilton, Dundee; J. Storie, senr., East Linton; J. Riddoch, D. S. Davidson, J. L. Cormack, Edinburgh; J. McFarlane, Doune; T. P. Young, Leith; and James Henderson, Hon. Sec. Visitors: Messrs. Wm. Mitchell, Wm. Peggie, and Dr. McLeod.

Apologies for absence were received from Professor Bradley, Messrs. J. G. Reynard, Alex. Wallace, J. Peddie, P. Wilson, Wm. Anderson.

A letter was received from Mr. F. W. Garnett stating the urgency for subscribing to the funds for the Tenth International Veterinary Congress.

Prof. GOFTON proposed that this year we, as a Society, should subscribe the sum of three guineas.

This was seconded by Principal Dewar, and agreed to.

ELECTION OF OFFICERS.

President.—Mr. John Riddoch, proposed by Mr. Peter Wilson, and seconded by Principal Dewar.

Vice-Presidents.—Prof. Gofton and Messrs. Peter Wilson and J. Storie, Sen., proposed by Mr. A. Baird, seconded by Mr. J. Aitken.

Hon. Secretary and Treasurer.—Mr. James Henderson, proposed by Mr. A. Baird, seconded by Principal Dewar.

Auditors.—Messrs. A. Baird and J. Riddoch, proposed by Mr. J. Aitken, seconded by the Secretary.

Council.—Prof. Bradley, Messrs. R. Reid, A. Baird, and T. M. Inglis, proposed by Prof. Gofton, seconded by the Secretary.

Mr. WM. PEGGIE, of Biggar, was nominated for membership by Mr. Peter Wilson, seconded by Principal Dewar.

MUTABILITY OF THE TUBERCLE BACILLUS.

Dr. ALEX. JAMES.

When I promised your Secretary to read to you to-day this paper on the "Mutability of the Tubercle Bacillus," I had in my mind an incident which happened here in Edinburgh a good many years ago. It was in 1899, some years after Koch had given to the world the story of his detection of the tubercle bacillus, and of his recognition of it as the factor of consumption in the individual, and some years also after the view that this tubercle bacillus and its transmission from person to person, was practically the sole factor of the disease, consumption, in the community. Our municipal authorities, ever on the alert for measures to promote public health, had asked some of us medicals to meet with them, and to discuss what might be done by the municipality to prevent, or at any rate to lessen, this spread of infection.

Accordingly, along with some dozen others, I found myself before the Public Health Committee. I need not recapitulate all that was said that afternoon, it is all minuted and printed, but I wish to tell you that in connection with the question of infection from milk, and from person to person in consumption, one thing which I said was, "You may kill off every tuberculous cow, you may banish every phthisical patient, the conditions under which cows and people live remaining the same, you will have the disease back again as bad as ever in a few months." This statement, I remember, came as something like a shock to many of those around me, but now after the lapse of all these years, I have to say that I am still practically of the same mind.

Here I would point out that there is no one more willing than I to acknowledge the wisdom of Faraday's saying, "In knowledge, that man only is to be contemned and despised who is not in a state of transition." "Nor is anything more adverse to accuracy than fixity of opinion."

I am well aware of the truth of all this, but I would point out that in knowledge, as in morality, we have had big and broad and wise principles handed down to us as convictions from the remotest times, principles the wisdom of which is such that they are true and right for all times, and that if in what we hear or see, or are called upon to do we recognise that a violation of these principles is entailed, it is well for us as for our fellow men that we, figuratively speaking, call a halt.

To pass from generalities to particulars, what I meant then, and what I maintain yet, is that the tubercle bacillus is an organism, not specially created by Providence to be a source of suffering and death to man, but simply the virulent transformation which takes place in a harmless and almost certainly useful organism, when by man the principles which Providence has ordained as necessary for the maintenance of a healthy and good life are being violated. This can be illustrated perhaps most aptly by the pneumo-coccus, and the disease pneumonia.

As you all know, the pneumo-coccus is in the mouth of practically every human being, and so long as the individual is leading a healthy life in healthy surroundings, it is performing there a useful function. But if, as the result of ignorance, slothfulness, improvidence or excess on the part of that individual, or of the selfishness, greed, recklessness, or vice on the part of his fellows, the maintenance of good health in face of the ordinary strains and exposure of life is rendered impossible; then in that individual the harmless and useful pneumo-coccus is very likely to become, as regards him, virulent, and the disease pneumonia, and often death a result.

What is true of the pneumococcus and pneumonia is true of many other organisms and diseases as well. But at present we have to consider it only with reference to the tubercle bacillus and tubercular disease.

To this I would now direct your attention, but before going into particulars, let me endeavour to clear away some difficulties which might at this stage seem to militate against what has just been said. When I say, as I have said, that—as the result of certain circumstances, &c., the useful and harmless pneumococcus is very likely to become as regards that individual virulent, and to cause disease and often death, I do not for a moment infer that that individual must be the sole sufferer. I frankly admit that should that individual fall ill with pneumonia, and should he be living among people whose health is below par from causes akin to those which have brought on his own disease, and should he and they be living in an environment which is crowded and insanitary, then it is not at all unlikely that his disease may spread among them by infection. We know, for example, that in many parts of Russia the disease scurvy is looked upon as an infectious disease, and when we reflect that in those parts there are times during which whole village communities are, through privation and exposure, living on the verge of developing the disease, it is quite comprehensible that the malady, having broken out in one individual, this case will be followed by a whole crop of others, just as a conflagration will follow the ignition of one in a bundle of dry sticks which by being constantly rubbed against each other are becoming hotter and hotter. Yet, although we must admit that there must be instances in which isolation of a scurvy patient might be of advantage, we can never assert that we shall stamp out scurvy by efforts to isolate and stamp out the organism on which it undoubtedly depends.

And now as regards the tubercle bacillus, and its mutability. As you are all aware, since Koch demonstrated his acid-fast bacillus, in human and bovine tubercular lesions, it has been shown that acid-fast bacilli, showing very similar anatomical characters are really widely spread organisms. As well as the human and bovine, we know of the bacillus in mammals, and in the bird, the fish, and the reptile. We know also of the butter bacillus, the smegma bacillus, the dung, the timothy and Johne's bacillus, and others.

It was pointed out by Bacon long ago that among men two types of mind can usually be recognised, one best fitted to see differences, the other best fitted to see resemblances. In this connection it is, I think, not far from the truth to say that the laboratory worker, working with microscope and culture tube, within the four walls of his laboratory, is likelier to represent the first type, and the clinician, working among all sorts and conditions of men and animals, and over wide areas is more likely to represent the second. Keeping those points in mind, I would at this stage venture to assert that whilst on the one hand, no one may have been able to transform a smegma or a timothy into a human or a bovine bacillus to the satisfaction of the laboratory worker, yet on the other hand, that the tubercle bacillus, human or bovine, shows such infinite variations as regards its anatomical characters and pathological effects, that the only satisfactory attitude which the clinician mind can assume is to believe that the human and bovine and many other bacilli are practically all blends of one common stock.

We are told for example, as regards differences between human and bovine tubercle that whilst human tuberculous material injected in rabbits generally produces small discrete lesions on the organs, which tend to retrogress, bovine tuberculous material induces a progressive disease with large caseating masses. Yet we have it that the Royal Commission of 1908 found—

(1) That with bovine tuberculous tissue into bovines, in some cases a progressive and rapid tuberculosis spread, whilst in others a limited retrogressive tuberculosis would result. Also

(2) That with human tuberculous tissue divided, however, into two groups, because taken from different tuberculous parts, one group would in bovine give rise to a fatal generalized progressive tuberculosis, and the other group for the most part to a retrogressive tuberculous lesion. That is to say that the differences which are described as existing between the pathological effects of human and bovine tubercle in the rabbit are no greater than the differences found to occur between two different blends of human tuberculous tissue when injected into the cow.

Of course it will be said by the laboratory observer of differences, that whilst this difference in the action of these two groups or blends of human tuberculous tissue on the cow is accidental and occasional, the difference between the action of human and bovine tubercle on rabbits is constant. But this will in no wise deter the clinician observer of resemblances from asserting that these differences are slight differences of blend, and not fundamental differences of kind. Moreover, if the clinician observer of resemblances be attacked for this apparent heterodoxy, he can point to the fact that within the past few weeks the orthodox procedure for differentiating the human from the bovine bacillus in the tubercular diseases of childhood, has in Edinburgh and in Berlin, apparently produced distinctly opposite results (1). But now let us proceed a little further.

This view, that these bacilli are not really different in kind but are simply varieties of the same organism has been upheld by many observers. I need not enter into the literature of this subject extensively, so I will first refer to a very few of the recent articles which have appeared in this connection.

First, there is an article "On the so-called types of the tubercle bacillus," by Dr. Malm, of Christiania, published in *The Journal of Comparative Pathology* for 1912. In this we find the following paragraphs:—

"We must obviously assume that, at first, the originator of tuberculosis, the tubercle bacillus, has been of one and the same species, race, type, or whatever it may be termed. Which species of animal first had the unfortunate distinction of having afforded habitation and nourishment for tubercle bacilli will never be discovered; possibly it was the human race, or possibly some cold-blooded creature, which first adopted and then rendered pathogenic and virulent a saprophytic form of tubercle bacillus. About that it is useless to speculate. This belongs to the archaeology of bacteriology, which hitherto has been entirely unexplored.

But as certain as, for instance, the stumpy and gnarled dwarf birch and the tall luxuriant hanging birch originated from the same seed, or, as the British Commission puts it, as the delicate little lap-dog originated from the same stock as the large, robust St. Bernard, so surely is the tubercle bacillus as regards its origin, botanically and etiologically, one and the same creature wherever it is found. This is evident from its shape, its biology, and its pathological effects.

But as the tubercle bacillus in the course of its existence in the different organisms—a bird, a mammal, a human being, or a cold-blooded creature—is subjected to various influences, in part purely vital and mechanical effects, in part chemical and physical influences, it acquires various peculiarities which render it in some some ways difficult to transfer to another and different soil. It is obviously the same with the tubercle bacillus

(1) See Moller. *Deutsche Medizinische Wochenschrift*, 18th Sept., 1913.

as with other plants; it has to be acclimatized, and varieties are evolved on account of variations of soil and temperature and other circumstances. And the greater differences in the soil the more difficult the transplantation.

Therefore at present there cannot be properly defined differences between more than three varieties of the tubercle bacillus, viz., those of mammals, of birds, and of cold-blooded animals, respectively. Even if from experiments it appears possible that transformation from the one race or type into the other of these three may occur, and even if it seems that spontaneous representatives of bird bacilli may be found in mammals, mostly in swine, yet the examinations hitherto made appear to prove that in practical life bird bacilli and fish bacilli do not play any part as regards human tuberculosis, without, however, our being able to disregard these forms entirely.

In the mammalian race, on the other hand, the tubercle bacillus is one from an etiological and epidemiological point of view, and the bacillus can be equally dangerous whether it is descended from a human being or from another mammal."

Later on he goes a little further, for he says (page 215):—

"As regards the length of time necessary to produce in a bacillus of the one kind the properties of another race there is, of course, no fixed rule. Circumstances and the difference between the soils play here a large part. But in some instances it seems as if it does not take so very long to produce a variation in the hereditary peculiarities of a tubercle bacillus. To create a human type from a bird type, or from a fish type, or *vice versa*, appears to be difficult, and it is in actual life doubtless of very rare occurrence. But Nocard succeeded in the course of five months in one instance, and of eight months in another, in transforming a human and a bovine tubercle bacillus into a bird bacillus by introducing a cell (capsule) with tubercular bacillus into the pectoral cavity of a bird. Moeller has in the course of a year transformed a human tubercle bacillus in such wise that it grew as a fish bacillus; and Klimmer in the course of about nine months rendered human bacilli non-virulent by passing them through a salamander. Dubard's fish bacilli are also descended from human bacilli, as his carp in the course of a year were fed with human bacilli. I myself have fed carp from the lake Maridalsvand (near Christiania) with human bacilli for several months, but on opening the carp no bacilli were found."

But there are other observers whose types of mind for seeing resemblances are more keen than this, and of such probably Ferrar (2), of Barcelona, is as good an example as can be cited.

As he puts it: "The current dogma runs to the effect that the acid-fast bacillus of Koch is the causal agent of tuberculosis, and that the tubercle itself is the anatomico-pathological "basis" of the disease. "This dogma," quoth Ferrar, "which is generally held to be indisputable, expresses but a half of the whole truth." He does not deny that Koch's acid-fast bacillus has the properties and behaviour, under certain natural conditions, that we observe distinguish it in the laboratory. But he does aver that the knowledge we possess of the behaviour and properties of the organism under the strictly confined conditions of the laboratory does not justify us in declaring that, under natural conditions, it always behaves in the same way, and manifests the same distinguishing characteristics. He goes further still, and attempts to reveal to us the natural history of the organism in what he considers its different phases. The

classical tuberculosis of the clinician is, to Ferrar, but the last stage of a complex process that, in its inception, is a more or less acute affair, without "anatomical signature" and in which Koch's bacillus, as we know it, plays no part. His conception is that, in the beginning, there is a "bacillosis" of the lymphatic system, with a consequent destruction of erythrocytes and resultant phenomena of a toxic nature. Later on the liver, spleen, lung, and other organs become the seats of "banal" inflammatory processes, which apparently subside and are cured spontaneously.

Clinically, we do not nowadays recognise the connection between these inflammations and catarrhs on the one hand, and tuberculosis on the other. But in by-gone days they were, with real justice, hailed as evidences of "pretuberculous" processes. The provoking agent of these pretuberculous inflammation is, in Ferrar's view, a saprophytic "ancestor" of Koch's bacillus; not acid-fast and easy of cultivation. But, just as this saprophytic organism modifies the host, so itself does it become adapted to its new environment. It loses its readiness for cultivation; it becomes an obligatory parasite; once an organism capable of rapidly causing death by setting up non-specific inflammatory and toxic processes, now it obtains as the producer of specific chronic tuberculosis: ultimately developing acid-fast properties. Before it passes into the latest and conventional stage of being an acid-fast and obligatory parasite, it exists for some time in the body as a *tuberculinigenous*, but non-acid-fast and yet obligatory parasite."

Along with this let me refer to a paper by Much, quoted in *The British Journal of Tuberculosis*, for April, 1913 (3). "Much attaches great importance to the position of the tubercle bacillus in the system of acid-fast bacteria. The acid-fast organisms are in a class by themselves, and display certain well marked biological relationship with each other. Deycke succeeded in producing a specific reaction in tuberculous subjects and lepers with a fatty substance derived from a non-pathogenic saprophyte. It was further found that a fatty substance derived from the tubercle bacillus gave the same specific reaction with lepers and with tuberculous subjects as the fatty substance derived from the saprophyte. It was then proved that the reaction capacity of acid-fast pathogenic organisms extended still further, for the specific anti-bodies of infected persons gave specific reactions with acid-fast species that were non-pathogenic. Tuberculin and bacillary emulsions derived from leprosy, smegma, timothy grass, and blind-worm were used. The reactions showed a regular scale of gradations in perfect accord with the degree of relationship existing between the tubercle bacillus and the other organisms."

But as regards our view as to the mutability of the tubercle bacillus, even more cogent information is contained in an article on John's disease by M'Fadyean, Sheather, and Edwards, in the volume of *The Journal of Comparative Pathology* (4) already referred to. In this article reference is made to Twort's work, in cultivating the lepra bacillus of man and also the John's bacillus in media to which the ground up bodies of dead human tubercle bacilli had been added, and also to his having found that the addition of dead timothy grass bacilli to the medium had given better results than had the addition of human tubercle bacilli. M'Fadyean and his co-workers also point out that Twort and Ingram had obtained little or no growth on media with which the avian bacillus had been incorporated, and entirely negative results when bovine bacilli were employed. M'Fadyean and his co-workers, however, found that the

(2) See *The Universal Medical Record*, April, 1913, for Ferrar's article in the *Archives General de Medicine*, January, 1913.

(3) *British Journal of Tuberculosis*, April, 1913, page 115.

(4) *Journal of Comparative Pathology*, Vol. xxv., 1912.

avian bacilli generally acted best, and that they got rather better results with human bacilli than with timothy grass. They also emphatically state that in contradiction to Twort's finding, in their experience the bovine bacillus was as useful for the growth of Johne's bacillus as was the human. But a further very interesting statement which they make is that in animals suffering from Johne's disease, they, on testing them in the ordinary way, obtained reactions in certain cases with both avian and human tuberculin.

The conclusion from all this to which the clinician type of mind will arrive is that his own view as to the mutability of these organisms is all the more likely to be the correct one, and further, that in coming to conclusions as regards those organisms and their relationships to disease we had best regard them in the way which will give us the widest horizon.

Next let me draw your attention to the question of the mutability of those organisms looked at more from the clinical side. You all know of the cutaneous tuberculin reactions, the so-called "Von Pirquet" test. Some information on this may possibly be of use.

Of 116 cases of phthisis tested recently with human tuberculin, 84, or roughly 72 per cent gave a positive reaction, and 32, or 28 per cent, a negative.

But dividing those cases into three classes, A, B, and C, and classing in the A's the favourable cases in the B's, the possibly favourable cases, and in the C's the most probably unfavourable cases, this Pirquet test gives further interesting information. In the first place, it is found that among the advanced and unfavourable cases the reaction is not so frequent as among the early. Thus, among C's the positive reactions occurred only in 66 per cent, while among the B's they numbered 77, and among the A's 75 per cent.

But another point is that if we divide the positive reactions in A's, B's, and C's, into marked and moderate or slight reactions, we find that whilst among the B's, and even still more among the A's, the marked reactions distinctly outnumbered the slight, yet among the C's, the reverse as regards strength of reaction was met with.

In this way, whilst experience is making us recognise the limitations of this cutaneous reaction test as a diagnostic, yet we know that it must mean something, and may be to some extent of prognostic use. To me a marked reaction often presents itself as a favourable rather than an unfavourable sign, it means, at any rate, some reaction power. As every physician knows, the most grave cases of lung tubercle, are often those in which there is no fever, i.e. no evidence of reaction for months.

But now let me tell you the results of this cutaneous test with bovine tuberculin.

Of those 116 cases tested with bovine tuberculin, 72, or roughly 62 per cent., were positive, and 44, or roughly 37 per cent., negative. Dividing them again into the classes A, B, and C., we find that among the advanced cases the reaction is not so frequent as among the earlier. Our figures show amongst the C's, positive reactions are only 50 per cent., whilst amongst the B's, they numbered 75 per cent., and among the A's, 50 per cent. Dividing again the positive reactions into marked, and moderate or slight reactions, we find, though to a much less extent, a preponderance of marked reactions again show among the more favourable cases. It would seem then that bovine tuberculin acts like human tuberculin, but to a less marked extent—that is to say, that bovine tuberculin acts very much like somewhat diluted human tuberculin. We have tried also those cutaneous reactions with many other fluids, serums and vaccines, but amongst these I would specially mention sterilised cultures of the timothy and of the smegma bacilli. I cannot as yet give you any figures, but I have no hesitation in saying that with timothy and smegma the

difference between their reactions and those of the human and bovine tuberculins is mainly one of much less strength.

But now whilst acceptance of this view of the mutability of these bacilli entails recognition, that between so-called non-tuberculous and the tuberculous persons there is no real dividing line, it entails also the belief that the degree of virulence of tubercle bacilli must vary in individual cases of tubercular disease. That this is so is borne out by the findings of the Royal Commission previously referred to, but to discover if any information on the subject could be obtained clinically we investigated as follows:

Taking two cases of phthisis, say A. and B. A. advanced and acute, B. early and mild—we made sterilised cultures of their sputum, and employed these for the cutaneous reaction test, in them and in other individuals mostly healthy. Curiously, we found that whilst A. reacted better with B's culture than with his own, and B. with A's than with his own, amongst the other individuals on whom we tried it, some reacted with A's, and some with B's, in a way which seemed inexplicable. All that we could say, therefore, in conclusion to this, was that although there might be differences in the virulence of the bacilli in any two cases, yet these differences were not more than could be counter-balanced by differences in the skin nutrition power of the various individuals tested.

And now, gentlemen, this paper must shortly come to a conclusion, and so as one who believes implicitly in this mutability of bacilli, and as one who is anxious to induce you all to believe in it as well, I shall leave the consideration of those experimental and culture investigations, and endeavour to put before you as concisely as I can, the ideas on this subject which, after 35 years of work at the interpretation of diseases, I have felt myself compelled to form.

I have already mentioned to you the comparison which has been made of different types of bacilli with different breeds of the dog tribe. In this connection I can easily understand how the bacteriologist, with his type of mind best fitted to see differences, may say—"When the clinician can show me a pair of toy terriers produce a St. Bernard dog, then I'll believe that an innocuous and useful timothy or smegma bacillus can become an active and virulent tubercle bacillus." To this, however, I would reply that such is not the problem. Apart from the untraversable gulf between bacilli and dogs, as regards the times and environments required for such a metamorphosis, the problem is a different one. The problem is really the transformation of a harmless and beneficent organism into a harmful and maleficent one, and if the laboratory worker only looks he will see, not perhaps every day, but certainly several times every year, instances of such transformations among things much higher than bacilli, for he will see instances of most useful and beneficent collie dogs becoming transformed into most destructive and maleficent sheep worriers. Not only this, but he will, if he likes, see or hear of instances where these destructive and maleficent dogs have by contact infected others of their own kind.

Now for what causes the transformation of the valuable and protecting collie into the harmful and destructive sheep worrier, we have a simple and scientific explanation. Remembering that in evolution of the species a wolf-like animal has been the ancestor of the dog, we say that this is simply an example of a reversion in the individual animal from the modern civilized to the ancestral savage type; a reversion brought on, we cannot precisely say how, but probably by something faulty in its environment and handling, through its heredity.

It is a big change to turn from the highly evolved dog to the simple bacillus, but between them we can

recognise some all-important analogies. In the first place we have to remember that the functions of life, the nutrition of the individual and the reproduction of the species are the same in all living beings, high and low. In the second place we have to remember that bacilli, like other living beings high and low, in the various and ever changing habitats, and environments through which in successive generations they passed their life histories, must for some periods live lives during which their activities are controlled and limited, and at other periods live lives in which these enjoy luxuriant freedom. It appears to me to be only in consonance with the harmony of nature to believe that the broad general conditions which govern the transformation of the useful collie into the destructive sheep worrier, and of the harmless germ into the virulent tubercle bacillus, are one and the same, viz., a faulty environment or handling, induced in the progress of civilization by the actions and reactions between them and an ignorant, blundering, selfish humanity.

Take, for example, the cow. Probably in some of its secretions, at any rate, through the grasses which it eats, bacilli, acid-fast or not, are to be found constantly present in its body. As long, however, as the cow is allowed to lead a natural life, in natural surroundings, all is well. Milk, however, is one of the needs of mankind, and with the progress of civilisation and the crowding of people in towns, it is needed in larger and larger quantities. Moreover, the people demand it at the lowest price at which they can procure it, and the dairyman has to make his livelihood. The result is that as regards environment and handling, that is to say as regards exercise, fresh air, sunlight, temperature, kind of food, etc., this cow tends to be so placed that whilst living so as to give the maximum quantity of milk, it is living in exactly the conditions which, by impairing its health and resistance power, favour the transformation of innocuous or useful organisms into virulent ones. But, further, as regards heredity. Bearing in mind the great natural law of the antagonism between nutrition and reproduction, and bearing in mind the fact that milk-giving for the community means the excessive cultivation of the reproductive activities, the breed of cow which the dairyman tends more and more to select, so as best to meet the demands of the community for quality and cheapness, will tend generation after generation to become less and less efficient from the nutritive point of view. That is to say, its tissue nutrition power must become less and less capable of preventing virulent transformations in these bacilli, and less and less capable of resisting their ravages when these transformations are complete (5).

I need not in your presence speak of the dangers of tubercle infected milk, but it must be evident that the remedy must be, not alone the killing off of affected animals, but improvement in all the conditions in which these animals are permitted to live. Indeed, when we reflect that milk is not a food only, but is in addition and in reality an animal secretion, it will suggest to us that the milk from cows not tuberculous, but merely living under the conditions which give the germs within them their tuberculous virulence, cannot but be a source of danger. The belief that this is so must, for its acceptance, appeal to common-sense and knowledge, but the statements of Courmont and Cade (6) that agglutinins can be transferred to an infant through the milk of a wet nurse, and of Salge (7) that diphtheria antitoxin may be so transmitted and absorbed by the infant, seem to afford it a scientific corroboration.

(5) For an interesting article on this subject and on milk records see Watson on Tuberculosis. *Scottish Farmer*, Nov. 19th, 1910.

(6, 7) See "Serums, Vaccines, and Toxins," by Bosaquet and Eyre. 2nd Edition, 1909.

I need not discuss with you the subject of the transmission of tubercular disease from bovine to bovine, nor need I enter into a consideration of how in the human subject virulent bacilli may be developed from non-virulent ones when the conditions of life are rendered unhealthy. My object has been to-day to lay before you the subject of the mutability of bacilli—human, bovine, or whatever they may be, and I cordially trust that what I have said may lead you to devote to this subject the careful consideration which I, for one, feel that it most emphatically deserves.

DISCUSSION.

Following Prof. James' lecture there was a discussion which was taken part in by Profs. Dewar, Gorton, and Matheson, and Messrs. Riddoch and Storie.

Mr. Riddoch, in thanking Prof. James for his lecture, said: We are exceedingly obliged to Dr. James for coming here and giving us such an instructive lecture this afternoon. I do not believe that disease organisms were created disease organisms at first, but finding themselves by accident or otherwise planted in animal tissues they endeavour to become accustomed to their surroundings—their environment, and if the vitality of the animal was lowered they of course gained the ascendancy. The whole subject is of considerable importance, and the meeting is now open for discussion if anyone has any remarks to make on the subject.

Mr. STORIE: I wish to say how much we are indebted to Dr. James for his very excellent paper which he has read to us to-day. I am sure that from his great experience in working with the tubercle bacilli his opinion must bear great weight. He has opened perhaps one of the very widest subjects he could possibly have taken up with regard to bacteria. It appears to me that it is principally a matter of evolution of the bacteria and nothing else. What we understand as this tubercle bacillus may perhaps be the most adaptable of all living organisms; it can adapt itself to more extraordinary circumstances than perhaps any other living organism we are aware of. The burning plains of India and the Polar regions are quite the same to it. All animals, from the warm-blooded mammals to the cold-blooded fish are quite the same to it, and we must see, when considering these things, what a scope there is for this evolution and mutability. I have listened with great interest to this paper, more especially as I have thought a great deal on the subject myself. I feel much indebted to Dr. James, and I am sure it will give us all food for reflection for many a long day.

Professor DEWAR: I do not need to say anything. I listened with very great pleasure to my friend and colleague, Dr. James. This paper will make us think. I find that Dr. James is still the old Dr. James. He does different things for himself, he causes us to think, too, I have not the least doubt. I know that there are differences in the virulence of the tubercle bacillus. I know I have seen tubercle existing in a herd, over which I have had control, for years, and not doing very much harm, and a new animal perhaps introduced as a different type—a different strain, if you will—evidently a tubercle which propagated itself and the contagion to others of the herd very rapidly. I have no doubt that where there can be mutability there are differences in the virulence of strains of bacillus. It is a big subject, we could argue on it for weeks. (Laughter.)

Professor GORTON: I am sure that, though Dr. James' paper contains rather too much for one to absorb in the short time, he has taken up a very big question, and one I would not like to attempt to discuss at present without having the opportunity of reading and studying it. I have been extremely interested in listening to Dr. James' remarks, because of the fact that the views he has placed before us have been so far from the orthodox views. It does us a very great deal of good to have it

brought so forcibly in front of us that there are at least two views on any question. I would venture just to touch on the paper. I have been able to follow some of his arguments, and on the remarks he has drawn certain conclusions, but with regard to others I must confess I have not been able to follow him, and I must say I have felt, rightly or wrongly, that some of the analogies he has drawn are just rather too wide—certainly wider than I am able to appreciate. I cannot quite follow the significance of his analogies in some instances. I wish to express my extreme pleasure in having the opportunity of listening to his paper, and the expression of his views. (Applause.)

Professor JAMES, replying to the discussion, said: I want to express my great pleasure in coming here and finding myself among you. This subject is a great, big, broad one, and my object was rather, what I find myself doing every day, to impress upon my neighbours that our knowledge is not finite—that we are in a state of transition regarding knowledge. The tendency of late times has been far too much to believe that things are settled and done with and cannot be controverted. I wanted to stimulate the optimistic spirit if I could. It is for this reason that I took up this question of mutability. One's time is limited, and this subject, which you and I have in hand, I thought might interest you. I can only express to you my great thanks for allowing me to come here and for the patience and attention given to me to-day. (Applause.)

Mr. RIDDOCH: We are extremely grateful to Dr. James for giving us such an interesting paper, and I propose that we give him a hearty vote of thanks. (Applause.)

SPLIT PASTEREN.

Mr. STORIE submitted a specimen of a split pastern. He said: The symptoms at first were very like foot lameness. Pressing the back of the foot was the only way we could get the animal to evince any pain. In a few days the lameness had increased, and in three or four days you could get a little pain by twisting the toe. However, the animal became very lame, and it was destroyed.

FRACTURE OF INNOMINATE—REPAIR.

Mr. PEGGIE exhibited an innominate bone showing a wonderful, though imperfect, repair of a fracture, and gave the following description of the case: "Two months ago I was called to see a carriage mare, 16 years old, with the history that she had come in lame the night before. The gentleman, who was driving the pair at the time, was coming down a slight incline at the walk, when the mare suddenly "huffed" herself, and immediately hopped off on three legs. As he had only about a quarter of a mile to the house, he trotted her home. The groom hosed the fetlock with cold water, and applied some concoction to the abrasion, thinking that the mare was lame from that cause; but as she was no better next morning I was consulted. When I arrived I found her sweating a little, temperature 102° F., and showing, when she walked, marked symptoms of hip lameness. Nothing could be seen or felt on external manipulation, but when the leg was lifted and abducted, she evinced signs of pain. I examined her per rectum and came to the conclusion there was a fracture of the body of the ischium. I informed the owner, who was very surprised and, in fact, questioned the diagnosis. He said he would like her treated, as she was a favourite. A dose of physic was given, and a strong mixed blister placed over the affected region, and a "wait and see" prognosis taken up. She was not put in slings, as she was of rather a nervous disposition. After the blister had been on for about six weeks I had her taken out of the box, and tried her at the walk, and was pleased to find her walking fairly sound. I therefore advised that she should have a run

at the grass. Accordingly the mare was turned out. The owner, however, became impatient, and had her taken up, after having been only two weeks out. I now examined her again, and found she could walk and trot surprisingly well, and showed very little pain on extreme abduction of the affected (near) leg. I may say this animal was insured, and the insurance company instructed Professor Dewar to make an examination of her. Per rectum the Professor also diagnosed fracture, and endorsed my treatment. Unfortunately the mare, after doing so well, died from twist of the large bowel nine weeks after her accident. On post-mortem examination, I found, as you will see from this specimen a double fracture: first of the shaft of the ischium, and second of the pubis. I may say no swelling was ever seen in the mammary region. I think the case is of interest, first, from the obscure cause of the accident, also from the slight nature of the lameness, considering the grave nature of the injury, and also from having so perfect a bony union in two months' time in such an aged animal.

JAMES HENDERSON, Hon. Sec.

NORTH WALES VETERINARY SOCIETY.

The annual meeting was held at the Mona Hotel, Carnarvon, on Tuesday, September 9th, 1913. The following members were present: Messrs. Frank Booth, Colwyn Bay, President; Richard Jones, Towyn, Hon. Treasurer; Hugh Williams, Ty Croes, Vice-President; R. S. Rowlands, Abergele; C. W. Cartwright, Dyserth; Wm. Hughes, Caerwys; O. Trevor Williams, Llangefni, John Mathews, Llanfair, P.G.; Owen Thomas, Llanerchymedd; L. W. Wynn-Lloyd, Hon. Sec.; and Jas. Smith, Llandudno, visitor.

Apology for non-attendance was received from Dr. Evans, M.R.C.V.S., Bangor.

The minutes of the previous meeting having been read, Mr. Trevor Williams proposed, and the Hon. Sec. seconded, that the annual subscription be reduced from 10/6. to 5/-. Carried.

ELECTION OF OFFICERS.

President.—Mr. Hugh Williams, Ty Croes.

Vice-President.—Mr. Wm. Hughes, Caerwys.

The Hon. Treasurer and Hon. Secretary were re-elected.

The President gave a brief *résumé* of the working of the Tuberculosis Order (1913), and discussed the proposed Milk and Dairies, and Anaesthetics Bills.

The meeting terminated with a hearty vote of thanks to the retiring President.

After tea the members witnessed two operations on cases provided by the Hon. Sec.; one of scirrhus cord, operated upon by the Hon. Treasurer; and another of umbilical hernia, by Mr. Trevor Williams, by means of Malloch's aluminium clam.

It will interest the members to know the progress of these cases. The case of scirrhus cord was discharged in four days, and made an excellent recovery.

The one of hernia was seen daily, the clam tightened, and the part dressed with an antiseptic solution. As we had attended a case of tetanus on the farm last year, we injected a dose of anti-tetanic serum on September 6th as a precaution. On the 23rd we went to remove the clam, and were surprised to find that tetanus had set in. The clam was removed and serum injected daily for eleven days. K.I. was given in the drinking water, and Pot. brom. C. Chloral hydras in the form of electuary. He was taken out for exercise on October 14th, and has since maintained good progress. I might add that the operation was a complete success.

L. W. WYNN-LLOYD, Hon. Sec.

DISEASES OF ANIMALS ACTS, 1894 TO 1911.

Return showing the number of Premises on which the existence of TUBERCULOSIS has been notified to the Board of Agriculture and Fisheries during the month of October, 1913.

ENGLAND (Counties) *		ENGLAND (continued) *	
Bedford (<i>Premises</i>)	1 1	Wilts	34 38
Berks	4 4	Worcester	5 6
Buckingham	2 2	York, East R.	7 7
Cambridge	2 2	" North R.	12 12
Isle of Ely	2 2	" West R.	38 42
Chester	36 40	WALES.	
Cornwall	17 18	Anglesey	11 11
Cumberland	3 3	Carmarthen	2 2
Derby	22 24	Denbigh	3 3
Devon	27 29	Flint	6 6
Dorset	4 4	Montgomery	1 1
Durham	16 21	SCOTLAND.	
Essex	8 9	Aberdeen	12 12
Gloucester	7 7	Argyll	2 2
Hants	1 1	Ayr	19 24
Hertford	2 2	Berwick	5 5
Huntingdon	7 7	Dumfries	5 5
Kent	10 11	Fife	8 9
Lancaster	46 47	Forfar	6 6
Lincoln, Holland	1 1	Haddington	1 1
" Kesteven	3 3	Kincardine	1 1
" Lindsey	3 3	Kinross	1 1
London	3 5	Kirkcudbright	8 11
Middlesex	6 6	Lanark	7 8
Norfolk	2 2	Midlothian	
Northampton	14 15	(ex City of Edin.):	2 2
Northumberland	7 8	City of Edin.	2 2
Notts	8 8	Orkney	1 1
Oxford	1 1	Perth	13 16
Rutland	1 1	Renfrew	2 2
Salop	9 9	Ross and Cromarty	1 1
Somerset	12 13	Roxburgh	8 8
Stafford	27 30	Selkirk	1 1
Suffolk	3 3	Stirling	4 4
Surrey	13 13	Wigtown	8 11
Sussex, East	2 2		
" West	2 2		
Warwick	23 25		
Westmoreland	4 4		
		TOTALS	602 655

* Number of bovine animals suffering from tuberculosis of the udder, tuberculosis with emaciation, or giving tuberculous milk, in respect of which notice of intention to slaughter has been received.

The Tuberculosis (Animals) Committee.

A meeting was held on 22nd ult., in London. The Earl of Northbrook, who presided, explained that as the outcome of a meeting of the Committee held in April last, he had written a letter to the Board of Agriculture making certain recommendations, and stating that the Committee were apprehensive that in its present form the Tuberculosis Order would inflict some hardship upon many owners of cows which were apparently healthy. It had recently been suggested to him that the time had arrived when the Committee might meet to consider the working of the Order, which had been in operation since May 1st. For the assistance of the Committee he had sent a communication to every County Council in Great Britain, asking for detailed information as to the administration of the Order, and up to the present date some fifty replies had been received.

It was resolved that the Committee be adjourned until a date to be fixed by the Chairman, and that in the meantime the information obtained from the various counties be printed and circulated to the members of the Committee.

THE LATE WM. HUNTING AND HIS INFLUENCE ON VETERINARY SCIENCE.

"For some we loved, the loveliest and the best
That from his Vintage rolling Time has prest,
Have drunk their Cup a Round or two before,
And one by one crept silently to rest."

The history of the profession shows that from time to time there were certain members who, by their researches, observations, devotion to work, example and personality, exerted a remarkable influence in the direction of progress. In the earlier days progress was achieved by the clinician; no doubt it was slow, for he had to depend on his unaided efforts to discover more successful methods of diagnosis and treatment; moreover, there were prejudices to overcome, and the duties to be performed left little time for investigation. Later on, with the advent of pathology, and physiology, and more precise methods of diagnosis, the opportunities for progress were more numerous, the number of workers increased, and preventive medicine commenced to occupy an important position. Slowly, but surely, the profession has advanced, until at the present day it has reached a position far beyond the expectations of its most enthusiastic pioneers. But it must not be forgotten that all this progress and advancement is the work of individuals, that it required devotion to duty, an iron will, self-sacrifice, and an enthusiastic spirit. Moreover, in addition to these attributes, personality and example were necessary in order to attract and lead others to commence and to carry on the laudable ambition of raising the profession to its highest level, of increasing its utility, and improving its literature.

Amongst the long roll of those who have exerted a marked influence on the progress of veterinary science, the name of William Hunting will ever remain pre-eminent. Richly endowed with all the attributes and qualities mentioned above, he has shed lustre on our calling, and his career is an example which many will, no doubt, emulate, but few will succeed in truly following. His additions to veterinary literature are too well known to need comment, and his inducement to others to publish their observations and experience has resulted in a vast accumulation of valuable material in the volumes of *The Veterinary Record*.

His work in the realms of preventive medicine has never been equalled, and although not always appreciated as it ought to have been, yet it stands as a monument which time cannot efface.

To clinical veterinary medicine and surgery he has made such solid additions that the value of his observations is vividly brought before the practitioner in his daily work. For W. Hunting exposed many "fads and fallacies" in diagnosis and treatment, besides contributing several original observations on the diagnosis of lameness, and the symptomatology of various diseases. His observations led practitioners to think for themselves, to avoid mistaking the shadow for the substance, and to distinguish consequences from coincidences. Accuracy in observation, a sincere desire for the discovery of clinical facts, and a contempt for assumed skill, were leading characteristics in his nature.

In addition to the qualities mentioned, who can forget his charming manner, and his willingness at all times to discuss difficult problems in veterinary science. He was the same to the humblest practitioner as to the one of the highest standing, and this was one of the reasons why the name of W. Hunting was a household word in the profession, and why he was honoured, respected, and loved by every practitioner in the British Isles. And it can be said without exaggeration that to have known W. Hunting was in the deepest and truest sense of the phrase a liberal education, and each one of us must re-

echo the following lines while we mourn for "the sound of a voice that is stilled" :—

"Whatever way my days decline,
I felt and feel, tho' left alone,
His being working in mine own,
The foot-steps of his life in mine."

To perpetuate the memory of so great a man is the duty of the profession of which he was so truly an adornment. As to what form the memorial should take, opinions may differ, but we might well follow the sister profession by instituting a lectureship on similar lines to the Lettsomian, Harben, Milroy, and similar lectures. This would be a perpetual and living memorial, and the matter is at least worth consideration.

E. WALLIS HOARE.

THE LATE MR. WILLIAM HUNTING.

The deceased gentleman was born in Camberwell, and therefore he is by birth a Londoner; his mother (née O'Higgins) was an Irish lady. At the age of five years he accompanied his parents to South Hetton, where his father in 1851 obtained, through the instigation of the late Prof. Spooner, an appointment; he received his general education at the Edinburgh Academy and his professional education at Gamgee's New Edinburgh Veterinary College, subsequent to this he finally settled in the city of his birth—London—where he established his reputation.

Therefore, the three nations, Ireland, England, and Scotland, have all assisted in the career of the late William Hunting.

HENRY GRAY.

Iceland Ponies.

Iceland ponies are exported annually to the number of (approximately) 2,500, whose value is estimated at £12,000. They are chiefly sent to Denmark: in 1911 490 were exported to the United Kingdom, and their value was £2,332. They do well almost invariably in this country, and may be relied upon to get through a lot of work.

An admirer of these ponies thus comments: "Their early conditions, climatic and otherwise, tend to give them a good constitution, and it is a case of survival of the fittest. They are, as a rule, good-tempered and easily managed; they are hardy and willing, with plenty of stamina. Their legs and feet do not leave much to be desired, and they are fine "doers" in the stable. They seem to thrive even when the material conditions are against them to some extent."—*Live Stock Journal*.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, Nov. 4.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.
Lieut. M. Bray resigns his commission. Dated Nov. 5.

GOVERNMENT PUBLICATIONS.—Messrs. Wyman and Sons (Limited), official sale agents in England and Wales for Parliamentary papers and Stationery Office publications, have published the following, the price including postage: Agricultural (Ireland) Report under Diseases of Animals Act, 1912, 4d.; Exportation of Worn-out Horses, 1d.

DISEASES OF ANIMALS ACTS 1894 to 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders† (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Out-breaks.	Slaughtered.*
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
GR. BRITAIN.													
Week ended Nov. 1	6		7				3	6	24	42	6	62	710
Corresponding week in	1912	11		11			6	17	22	32	22	49	880
	1911	20		22			3	12			7	33	578
	1910		29	38			2	10			6	41	456
Total for 44 weeks, 1913	458		507				129	318	2103	4157	147	2110	27650
Corresponding period in	1912	650		732	82	639	154	288	2502	5317	208	2528	34377
	1911	743		917	18	467	180	431			323	2114	25393
	1910		1235	1470	2	15	319	933			367	1255	11643

†Counties affected, animals attacked: Essex 2, Kent 2, London 2.

Board of Agriculture and Fisheries, Nov. 4, 1913.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders† (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Con-firm'd	Re-ported	Con-firm'd	Re-ported	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Out-breaks.	Slaughtered.*
IRELAND. Week ended Nov. 1	...	...	...	...	...	...	1	1	Outbreaks 1		6	...	45
Corresponding Week in	1912	...	...	1	18	...	...	...	...		5	4	22
	1911	...	...	...	...	...	...	...	...		2	2	78
	1910	...	...	...	...	...	...	...	...		5	4	91
Total for 44 weeks, 1913	...	...	...	...	...	...	1	1	110		429	127	814
Corresponding period in	1912	...	3	3	66	374	...	...	58		290	198	1603
	1911	...	7	14	...	...	2	3	53		283	115	2001
	1910	...	7	10	...	...	1	2	62		387	82	1869

* These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Nov. 3, 1913

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Hunting Memorial.

It has been brought to my notice that there is a desire amongst the members of the profession and friends of the late William Hunting to perpetuate his memory.

A meeting will be held at the Royal College of Veterinary Surgeons, 10 Red Lion Square, W.C., on Thursday, Nov. 13th, at 7.30 p.m., to consider proposals for carrying this into effect. It is hoped that all those who are interested in the movement will be present.

HENRY GRAY.

23 Upper Phillimore Place, W.

Personal.

JEFFRIES.—On March 4th, at York House, London Road, Guildford, the wife of H. Haywood Jeffries, M.R.C.V.S., of a son.

The late Sir RICHARD COOPER, of Lichfield, chemical manufacturer, and one of the leading stock breeders in the country, left £519,300. He stated in his will:—

"I make no charitable bequests (in the sense in which the word charity is commonly used), because I am confident that my son will continue what appears to me the best form of charity, namely, to remember with kindness all those who have been friends or intimate acquaintances of myself and family, and will give them financial help in all cases where they stand in need of it."

OBITUARY

EDWARD NETTLESHIP, F.R.C.S., F.R.S., M.R.C.V.S., Hindhead, Surrey. Graduated, Lond: May, 1867.

Edward Nettleship, F.R.C.S., F.R.S., M.R.C.V.S.

The death of Mr. Edward Nettleship took place on Oct. 30th at his residence at the Longdown Hollow, Hindhead, Surrey, in his 69th year. He was born at Kettering on March 3rd, 1845, and was educated in his natal town. Some time after he had obtained the Membership Diploma of the Royal College of Veterinary Surgeons, he succeeded the late Mr. Wm. Hunting, F.R.C.V.S., as Professor of Veterinary Science at the Royal Agricultural College, Cirencester, but after a short stay there he returned to London to study human medicine, in which he afterwards made himself famous. Early in his career as a medical man he gained for himself a great reputation in ophthalmology, and became consulting surgeon to the Royal London Ophthalmic Hospital and St. Thomas' Hospital.

In 1891 he was consulted by Mr. Gladstone, upon whom he operated for cataract with great success, and hence his name became known far and wide.

He wrote numerous articles on ophthalmological subjects, and published a little work on "Diseases of the Eye," which became for a great number of years the standard book on the subject for students and junior practitioners, both medical and veterinary.

During the past two years he, in collaboration with Prof. Karl Pearson and Mr. Usher, brought out a series of volumes on the question of Albinism in man and in animals, including among other subjects "wall-eye" in horses. In 1912 he was elected a Fellow of the Royal Society of London, the most coveted honour a scientific man can obtain.

A few years ago Mr. Nettleship retired from practice, but during his retirement he took a great interest in many questions relating to this profession, and within the past few months published, in conjunction with Mr. A. C. Hudson, a valuable paper "On Optic Neuritis without Intra-cranial disease, in a pedigree bull," a copy of which he sent to several of his veterinary friends. He was greatly interested in the problem why roaring

in horses generally affected the *left* recurrent nerve. Hardly five weeks before his death he was in active correspondence with members of his old profession on these and allied subjects, so keen was his desire for knowledge.

Two years ago he underwent a severe operation with complete success after a prolonged after-treatment, and had an attack of influenza last spring. On the writer of this notice enquiring on Sept. 20th as to his health he replied: "Thank you, I am quite well, but find that one cannot at my age have illnesses for nothing."

In 1869 he married Elizabeth Endacott, daughter of Mr. R. Whiteway, of Compton, Devon, who survives him.

It is worthy of note that a professional training in veterinary medicine has been the starting point of many men, who have afterwards become famous in human medicine. Among such were Joseph Sampson Gamgee, Thos. Orme Dudfield, late Medical Officer of the Royal Borough of Kensington, Balfour of Edinburgh, Raymond, the successor of Charcot at the Saltpetrière, who a year or two before his death received the LL.D., Oxford (Hon. Caus.)

MR. GEORGE D. HOYLAND, V.S., Wombwell View, Barnsley, Yorkshire. Death occurred on Nov. 3rd, from Carcinoma of liver. Aged 68 years.

CORRESPONDENCE.**DIAGNOSIS.**

Sir,

I must again crave your indulgence in order to answer Mr. McKenny's question. The question is easily disposed of—the answer is in the negative, *cela va sans le dire*. But I still deny that, in any of the articles for which I am responsible, or in those which have appeared in connection with the subject, the impression could be conveyed to a reader of ordinary intelligence that the writers intended their confessed "want of skill" to apply to all members of the profession. Most of your readers understand that if a writer chooses to employ the first person plural, it does not by any means indicate that said writer "arrogates to himself the prerogative of measuring the skill and ability of others." If Mr. McKenny holds an opposite view, then we shall "agree to differ."

Fortunately Mr. McKenny has not used the first person plural, otherwise the public might expect a similar degree of skill in other practitioners. Mr. McKenny says that whenever he formed a definite opinion on a case, the cadaveric lesions most satisfactorily corroborated his ante-mortem diagnosis. He does not, however, give us the proportion of cases in which he forms a definite opinion. Very much depends on this. If he forms a definite opinion in a large number of cases and finds that said opinion is always supported by post-mortem evidence when the cases succumb, then indeed he must have exceptional skill in diagnosis.

When Mr. McKenny says that he frequently finds "most interesting specimens apart from the ailments from which the animal was suffering," does he mean to infer that no symptoms were associated with the presence of such lesions? If so, the clinical interest falls to zero.

"A good reputation and confidence in one's ability to diagnose cases," do not always go hand in hand with knowledge, nor with wisdom, but they are essential attributes to the *savoir vivre*. The days of hero-worship are getting numbered. The public are commencing to estimate the stoic, not at his own valuation, but by another standard. The man who fancies that he is immune to errors, although he still may be able to persuade certain clients of his superiority, soon loses his influence in this direction. He may fool some of the people all the time, all of the people some of the time, but he cannot fool all of the people all the time.—Yours, etc.,

Nov. 3.

E. WALLIS HOARE.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1323.

NOVEMBER 15, 1913.

VOL. XXVI.

NEXT YEAR'S REGISTER.

The Register is now undergoing revision; and all changes of address ought to be notified to the Registrar before the end of this month. As we have pointed out, this imposes a double obligation upon us all—to report our own changes of address and of others within our knowledge which are likely to be unreported. The first we do for our own sakes; the second we ought to regard as a public duty. It is to the interest of the profession and the public alike that the Register should be as accurate as possible; members generally will assist the Registrar by sending the necessary information.

SIR THOMAS ELLIOTT.

The report of the dinner given by the Royal Agricultural Society to Sir Thomas Elliott is a pleasant record of a well-deserved compliment; and the names of those attending it testify to the guest's widespread popularity. On the other hand, it marks the loss to the Board of Agriculture of one of the best servants that that body has ever possessed. In his long official career Sir Thomas Elliott has done excellent service to the nation; and we in the veterinary profession have especial cause to remember him with gratitude. Throughout his tenure of office at the Board, he was brought into close touch with its veterinary branch, and quickly realised its usefulness. This led him to encourage veterinary activity within the Department, and, as a Governor, of assisting the Camden Town School. In both capacities he has steadily furthered our development; and for many years past the profession has had no better friend outside its ranks than Sir Thomas Elliott. All members recognise this—those with inside knowledge realise it most clearly—and all will join in good wishes for his future.

THE MUTABILITY OF THE TUBERCLE BACILLUS.

Prof. Alex. James' lecture upon this subject, which we printed last week enunciates a heterodoxy which every year brings nearer to the realm of probability. Some family connection between the various acid-fast bacilli is now generally accepted; but its nature is merely surmise, and the existing differences between the species are only imperfectly understood. That being so, it would be premature to deny the possibility of a speedy mutation of one species into another because no such mutation has yet been proved. Clinical facts, such as the

comparative frequency of tuberculosis among un-housed cattle in New Zealand and elsewhere, and bacteriological experience, such as the great variations in pathogenicity known to exist amongst tubercle bacilli, support the view of mutation more or less. Assuming that such mutation is possible, it may not take place easily or rapidly in natural conditions, but it is conceivable that special circumstances may facilitate it.

The question is only likely to be settled by exhaustive comparative studies of the chemistry and biology of the various acid-fast bacilli—mostly of comparatively recent discovery, and new facts have lately been gained regarding even those longest known. Their possible mutability is being studied, with other questions, in various laboratories. It may not greatly affect the problem of tuberculosis at present; but the influence upon future work may be profound. At present, in the campaign against tuberculosis, we are concerned only with the affected animal. But when the disease as it exists now is brought under control, the mutability of acid-fast bacilli may be an obstacle in the way of its complete eradication.

TREATMENT OF "POLL EVIL" WITHOUT OPERATION.

The horse in question was affected some six weeks before my attention was directed to it, and he had been worked until he could work no longer.

The symptoms were—head very depressed, and the nose almost touching the ground. On my trying to raise it the horse almost dropped, owing, I expect, to pressure on the cord at the atlanto-axial joint. The swelling over the region of the poll extended about 12 inches from before backwards, and about 18 inches laterally, with four fistulæ on the off side and two on the near, discharging a sanguino-purulent fluid with a most offensive odour. Breathing stertorous, and animal in poor condition.

I tried to open up the fistulæ, but at the first probe the horse fell as if "pithed," so had to give that up, and contented myself with syringing out the sinuses with Hydrogen peroxide (10 vols.) until they were clear, and then injecting "Phylacogens," (P. D. & Co.)

I left instructions for the discharges to be washed off daily, and the skin to be kept clean. This was on August 15th, 1913.

August 18th.—Less discharge and very little odour. Repeated treatment.

August 25th.—Continued improvement; treatment repeated.

Sept. 1st.—Discharge absent on the near side, and horse could move head easily and naturally. Feeding well, and condition very much improved. Treatment continued.

Sept. 8th.—Been neglected by man in charge, who did not clear off discharge, which could not get away. Dressed and cleansed, and injected phylacogens.

Sept. 13th to Oct. 4th.—Injected phylacogens, but did not use Hyd. peroxide as discharge had ceased, and on Oct. 4th the skin wounds had healed; horse put to work and is still working and showing no signs of a relapse.

Being single-handed in a wide country practice, and the case some miles away, I could not attend oftener. I consider this an extraordinary cure, as I thought any treatment would be useless. From the very first dose of the phylacogens the case began to improve, and except about September 8th, when the man neglected to cleanse the parts, there was no retrogression. In future I shall leave operation for this condition alone, at least until I have tried the same treatment and failed. I am also convinced that the time of treatment could have been reduced to one half—or less, had I been able to dress the wounds and inject the phylacogens daily, or at least every other day. J. M.

TREATMENT OF CANCER OF THE FOOT OF THE HORSE BY THE INTERNAL ADMINISTRATION OF ARSENIOUS ACID.

An article was recently published by Major J. D. E. Holmes, C.V.D., on the treatment of cancer of the horse's foot by the internal administration of arsenious acid in large doses. This treatment has been tried this year in the Station Veterinary Hospital, Lucknow, on two cases, with very satisfactory results. Both were Australian horses from the R.F.A.

The first case was badly affected on one fore foot, the foot was deformed and the horse very lame, a pronounced chronic case, which had been twice previously treated with only partial success.

The second case was diseased in all four feet.

Treatment consisted in the administration of arsenious acid in bolus in three courses, with an interval of seven to fourteen days between each course. The doses, ten in number in each case, were given on alternate days, commencing with one gramme, and gradually increased to three grammes.

On the completion of the third course both cases were cured, one on May 6th, the other on July 14th. Up to the present time there has been no re-appearance of the disease, and both horses are at work.

The only local treatment adopted was pressure, and the application of a dry antiseptic dressing.

The duration of the treatment of each case was approximately 3½ months.

J. J. HILLARD, Lieut. A.V.C.

Lucknow. Oct. 15.

ABSTRACTS FROM FOREIGN JOURNALS.

SODIUM HYPOSULPHITE IN THE TREATMENT OF DISTEMPER.

Teppaz has published (*Rev. Générale de Méd. Vét.*) a communication upon this subject. He read in a sporting journal that small doses (7½ to 15 grains) of hyposulphite of sodium gave "marvellous" results in distemper. He therefore tried it, and now uses it systematically, to the exclusion of all other internal medicaments, in all cases of distemper, whatever their form. He has thus treated about sixty cases, the majority of which have recovered.

At the commencement of the illness, Teppaz gives a purgative consisting of equal parts of calomel and scammony (4½ to 7½ grains each). He follows this by giving one dose daily of sodium hyposulphite (9 to 15 grains) in milk or sugar and water, commencing the day after purgation. He considers it very useful to simultaneously employ counter-irritants in the case of respiratory symptoms.

Under the influence of this treatment, the catarrh and cough of the respiratory form of distemper diminish. In the gastro-intestinal form the diarrhoea abates, the excrements harden and develop a pronounced odour of sulphuretted hydrogen, and the appetite returns. It is rarely necessary to give the hyposulphite for more than ten days.—*Annales de Méd. Vét.*

[Finlay Dun mentions hyposulphite of sodium for distemper, stating the dose at from ten to twenty grains twice daily. Many years ago I tried it in a few cases, and obtained good though not brilliant results; but I did not use it long enough to form any strong opinion of its value. I never prefaced its administration by such a purgative as is prescribed above.—TRANSL.]

FOREIGN BODY IN THE LUNG OF A DOG.

Knitl, of Neumarkt, records the following case in a valuable hunting dog. While out hunting, a piece of bread was thrown upon the ground before the dog. He bolted it greedily, and from that moment refused all food. During the next few days no special symptoms of illness could be seen in him, beyond refusal of food and an acceleration of the respiration. On the sixth day he died.

The post-mortem examination was surprising, as it revealed a foreign body in the shape of a sharp pine twig about two inches long in the right lung. The foreign body had already penetrated the pulmonary pleura; but the canal which it had formed had not yet broken down into pus.

A peculiar feature of the case was that neither coughing nor fever was shown during the whole period of the illness, and that even examination with the phonendoscope failed to reveal any abnormal sounds in the lung.—(*Münchener Tier. Woch.*) W. R. C.

[This case suggests the possibility that similar ones may occur unrecognised more frequently than is generally supposed.—*Transl.*]

* The Dairy Division score card for handling bulk milk is as follows:—

[Front of Card].

(United States Department of Agriculture, Bureau of Animal Industry, Dairy Division).

Operator: Address: Gallons sold daily: Permit No. —: Date: Remarks.

(Signed) —, Inspector.

[Back of Card].

DETAILED SCORE.

Equipment.	Score.		Methods.	Score.	
	Perfect	Allowed		Perfect	Allowed
Building:			Building:		
Location: Free from contamination surroundings ...	...	12	Cleanliness ...	...	10
Separate room for milk handling ...	...	5	Floor ...	...	3
Construction ...	...	8	Wall ...	...	2
Floors, tight, smooth, cleanable ...	1		Ceiling ...	...	2
Walls, " " " ...	1		Show cases, shelves, etc. ...	...	3
Ceilings " " " ...	1		Freedom from flies ...	...	3
Show cases smooth, free from ledges and crevices ...	1		Freedom from rubbish ...	...	2
Provision for light (10% floor space) ...	1		Air ...	...	1
Provision for pure air ...	1		Freedom from dust ...	...	2
Screens ...	2		Freedom from odours ...	...	2
Utensils ...	...	15	Utensils ...	...	20
Construction: easily cleaned; free from open seams and complicated parts ...	5		Thoroughly washed and rinsed ...	10	
Condition: free from rust, dents, &c. ...	2		Steamed ...	10	
Facilities for cleaning: water clean, convenient, and abundant ...	2		(Scalded, 5)	...	
Hot water and steam ...	3		Ice box: cleanliness of ice box ...	...	3
Brushes and washing powder ...	1		Handling: placed on the ice as soon as received ...	...	5
Protected from flies and dust when not in use ...	2		(Protected, put on ice inside of hour, 2)	...	
Ice box ...	...	10	(Unprotected, 1)	...	
Separate ice box for milk ...	5		Temp. of milk below 50° F. (51°-55°, 8; 56°-60°, 5; 61°-65°, 2)	...	10
(Milk kept in separated compartment, 2)	...		Freedom from undue exposure of air ...	...	2
Construction ...	3		Cleanliness of attendants ...	...	1
Tight and cleanable ...	1				
Non-absorbent lining ...	1				
Good drainage ...	1				
Protected from flies and dust ...	2				
Total	40		Total	60	

Equipment + Methods = Total.

NOTE.—If the conditions in any particular are so exceptionally bad as to be inadequately expressed by score of "0," the inspector can make a deduction from the total score.

* This, and following abstracts are from the Annual Report, Bureau of Animal Industry, Dept. of Agric., U.S.A.

COLON-TYPHOID ORGANISMS IN HOG CHOLERA.

A bacteriological study was made with the object of determining whether or not hog cholera bacilli or related organisms belonging to the bacillus enteritidis group were present in the carcasses of hogs, which at autopsy showed lesions of hog cholera.

The results of this investigation showed that organisms of the colon-typhoid group were almost constantly present in the livers of normal hogs, but seldom in the other tissues. In the case of hogs affected with hog cholera, colon-typhoid organisms were not only present in the liver, but were quite generally distributed throughout the other tissues as well. There appeared to be little, if any, difference in the occurrence and distribution of colon-typhoid organisms in the three classes of cholera hogs studied—that is, colon-typhoid organisms were present as frequently in organs and tissues of carcasses showing slight cholera lesions as in the carcasses showing extensive cholera lesions. No organisms of the

bacillus enteritidis, or so-called hog cholera group, were found. The organisms referred to as belonging to the colon-typhoid group, presented the usual characters of the colon bacillus, some strains fermenting glucose and saccharose, and some only glucose and lactose.

There were also organisms which correspond with the classical description of bacillus fecalis alkaligenes. No organisms corresponding to the typhoid bacillus were found.

CARCASE VALUES.

The bones and trimmings were found to average per carcass as follow:—Cattle, 24 per cent. of the dressed weight; calves, 30.5 per cent.; sheep and lambs, 25.5 per cent.; and swine, 15 per cent. The dressed weight in the latter includes the lard. When these percentages are applied to the total weight of meat annually consumed, it appears that fully 3,000,000,000 pounds, or 20 per cent. of the dressed meat sold for consumption, is composed of non-edible material.

The extra-edible parts of the various animals were found to average as follows, excluding the edible tallow so as to confine our data, as before, to meat proper:—Cattle, 41·87 pounds; calves, 9·47 pounds; sheep and lambs, 1·03 pounds; swine, 25·05 pounds. The edible tallow, it may be remarked, is practically all supplied by adult cattle, the averages per animal being:—Cattle, 56·22 pounds; calves, 0·22 of a pound; sheep and lambs, 1·03 pounds. The lard of swine has already been estimated in the preceding chapter to be 27·27 pounds per animal.

It may be observed, in passing, how the above results emphasise the superior economy of the swine carcass. It is lowest in percentage of bones and waste, and highest in proportion of extra-edible parts and edible fat. In the two latter cases, of course, the size of the animal must be taken into consideration when comparing swine with cattle.

DOURINE IN FRANCE.

Schneider and Buffard maintain that in France dourine appears nearly every year in the Department of Basses-Pyrenees on the Spanish frontier. It is stated that mares get infected by the asses or horses by which they are covered. It is the custom to have a mare first covered by an ass, and if not impregnated she is then covered by a stallion. The asses operate on both sides of the frontier, and in this way introduce the disease into France from Spain, where it has been known to occur for years, especially in Navarre.

CREOSOTE IN SHEEP DIPPING.

An investigation into the effect upon the composition of coal-tar creosote baths, caused by the passage of sheep through such baths, has been continued from the previous year. It was proved that as dipping is continued, the percentage of cresylic acid contained in such baths becomes progressively less. It is probable, therefore, that as sheep pass through such baths their wool to a certain extent plays the part of a strainer, and mechanically removes from the emulsion an undue proportion of globules of oil and cresylic acid.

Of the animals which gave a positive reaction to tuberculin, 99·15 per cent. showed lesions of tuberculosis at autopsy.

F. E. P.

WEST OF SCOTLAND VETERINARY MEDICAL ASSOCIATION.

A meeting was held in the Glasgow Veterinary College on Wednesday, 22nd October, 1913, at 4.15 p.m. The President, Professor John R. McCall, in the chair. The following gentlemen were present: Messrs. Thomas A. Douglas, W. Robertson, John Taylor, Peter MacIntyre, J. G. MacGregor, Hugh Begg, W. McMurrich, David Brown, W. Ferguson, James McDougall, T. B. Hamilton, Geo. W. Weir, Robert Mitchell, Jun., Wm. Roy, Jas. Macfarlane, Jas. F. Taylor, John Baird, Wm. Watt, Jno. P. Small (Clones, Ireland), H. Gillmor, J. D. Fulton, Duncan MacLeod, P. J. Turner, J. B. Taylor, Jno. F. McIntyre.

Apologies for absence were read from Principal Bradley, Edinburgh, and Mr. Jas. G. Reynard.

The minutes of the last meeting were read and approved.

New Members.—Mr. JOHN BAIRD, Dumfries; Mr. CHADWICK, Falkirk; and Mr. CRAIG, East Kilbride, were proposed by the President, and seconded by Mr. H. Begg.

Mr. JAS. F. TAYLOR, Cathkin, and Mr. MCGEOCH, SENR., Paisley, were proposed by Mr. Hugh Begg, and seconded by Mr. Thos. A. Douglas.

THE INTERNATIONAL VETERINARY CONGRESS, 1914.

The PRESIDENT introduced the subject of the Association's donation, and as there was considerable diversity of opinion as to the amount, the matter was put to the vote whether a sum of six guineas, proposed by Mr. Hugh Begg, and seconded by Mr. James McDougall, or a lump sum of ten pounds, proposed by Mr. Jas. Macfarlane, and seconded by Mr. Robt. Mitchell, Jun., should be decided upon. Nine members voted for the six guineas, and six for the ten pounds. The private subscription list sent round to the members on behalf of the Congress amounted to thirty-four pounds, thirteen shillings; this, together with six guineas from the Association's funds (four guineas of which has already been forwarded), amounted to forty pounds, nineteen shillings.

Other business was then disposed of.

PRESIDENTIAL ADDRESS.

Professor JOHN R. MCCALL.

The PRESIDENT thanked the members for the honour they had conferred upon him in calling him to the chair. He assured them it would be his earnest endeavour to fulfil the duties of the office to the best of his ability, and he would do his utmost to further the interests of the members in every possible way. (Applause.)

The present time was a momentous one for the veterinary profession. Many changes were in the air, and never before in their history had there been more need for interchange of ideas amongst their members, and for the exercise of the spirit of co-operation; and he need hardly add that it was in the harmonious and sociable meetings of societies such as theirs that most benefit could be derived, from deliberations which bore directly upon their calling.

He knew full well there were several members there who held and had expressed the opinion that the future was dark indeed—that motor traction had largely replaced horse traffic, that the good old days were gone never to return, and if they escaped the workhouse they were lucky. Well, with these pessimists he could not agree. Their forefathers had preached the same doctrine, and probably their children would in the future do likewise. They must not lose sight of the fundamental law of compensation that bulked so largely in the history of the world's progress. He admitted that motor traffic had materially affected the incomes of the city practitioner, and to a lesser degree the country practitioner also, but, on the other hand, an enormous field of public health work was daily increasing, and must claim a large number of their graduates in the immediate future. When they remembered that this applied not only to their native country, but to their huge dependencies beyond the seas, where many epidemics were prevalent, they must realise that there was work on which to concentrate their energies, and work which was bound to bring their profession very prominently before the public, and incidentally to increase their social status. (Applause.)

The new Tuberculosis Order would devolve work of an onerous and responsible nature upon many of them, and would of necessity demonstrate the important part they were bound to play in the preservation of one of the chief assets of the nation, viz., public health. There were many other contagious diseases that must ere long be scheduled, and he need only refer to contagious abortion, John's disease, and diseases of sheep. The latter, up to the present, had practically been neglected for want of State assistance, and were annually a source of enormous loss to the agricultural community. It was questionable whether the loss from contagious abortion, directly and indirectly, did not equal the loss from tuberculosis, and it had been estimated that the annual

loss from braxy in Argyllshire alone amounted to between £60,000 and £90,000. It must be evident to all of them that in the days to come, their energies would be largely centered upon the prevention of disease, but at the same time, while they had live stock, there would always be ailments and incidental diseases, which were bound to keep the general practitioner employed.

The breeding of all classes of live stock was never so active as at present, and if they could draw any deductions from the prices being realised for pedigreed animals, it must be obvious that the future in this respect held great promise. Great Britain was the premier breeding country of the world, and although for many years large numbers of animals of most fashionable blood had been exported, the climate and conditions in other countries apparently did not favour the retention of the various breed characteristics, and the foreigners were forced to return to the old country for pure blood stock. Hence it followed that if home bred stock were becoming so much more valuable, it would be to the interest of stock breeders to employ efficient veterinary attendants.

The President then went on to refer to the decrease in students during recent years, and mentioned that many of those qualifying were seeking employment in the Government service and the Army. He expressed satisfaction at the fact that both the Scottish Colleges were now participating in grants under the Scotch Educational Department and the Board of Agriculture for Scotland.

THE TUBERCULOSIS ORDER, 1913.

Mr. THOMAS A. DOUGLAS, Kilmarnock, opened a discussion as follows:—

"It was with considerable diffidence that I consented to open this discussion on the Tuberculosis Order, at the request of our President. So much has been said and written about this Order during the past six months that the subject is almost threadbare, yet possibly after six months experience in the working of the Order, some new ideas may have come to light which may prove of interest, and be helpful both to those of us who are inspectors and those who are private practitioners.

It would be about twenty years since in meetings like this, when bovine tuberculosis was under discussion, the proposal for State control of the disease was advocated first, but it was obvious that the usual methods of stamping out were inapplicable in this case owing to the dislocation of the cattle industry that would follow any such drastic measures. The Board of Agriculture have now decided to tackle the question, and we have the first fruits of this decision in the Tuberculosis Order of 1913.

The Order is a very gentle beginning with a very big problem. The object is, briefly, to get rid of what they believe to be the two most dangerous classes of tuberculous animals, viz., those with the udder affected, and those that are emaciated from the disease.

The first class is not such a very large one, but the damage done by these animals is out of all proportion to their number. The milk from such animals cannot be given to calves without almost certainly producing the disease in them, and that at an age when they are little fitted to withstand such an infection. Although this is primarily an Order dealing with the disease amongst cattle, its bearing on public health is too great to be overlooked; the grave danger to children from tuberculous milk is now almost universally admitted, and, after what Dr. Davies told us at Hamilton the other day, of his experience in this matter, I think you will agree with me that it should be our earnest endeavour to hasten the ridding of our herds of cows with tuberculous udder, both for the sake of the farmer and for the public welfare.

The other class dealt with in the Order, the "piners" or "wasters" as they are commonly called, these will always form the majority of the cases to be dealt with.

There are several indications in the Order, and in the circular letters which were issued to the local authorities with the Order, that this is only a temporary measure, in fact five years is mentioned, and I believe alterations and amendments will be made even before that.

One of the most urgent alterations is the extension of the Order to deal not only with "piners," but also with clinical cases—animals which we believe to be spreading the disease. We know that the location of the lesions determines largely the extent of emaciation; we have seen cases emaciated from tuberculosis in which possibly no tubercle bacilli were escaping from the body, and, conversely, we find animals in quite good condition which, by coughing and otherwise, are spreading the infection all the time.

In the testing of whole herds we have noted that if there is, or has been, a "piner" in the stock, the large majority of the animals in contact are reactors, and in this way I think it is a pity that we cannot remove an animal before it has stood so long in a byre as to have become emaciated, and meantime to have been infecting all its neighbours. Desirable as this extension is, dislocation of the cattle industry of the country must be guarded against.

What the ultimate scheme will be that will deal definitely and fully with this disease I cannot guess, possibly something like the "island scheme" of Professor Delépine, viz., Bang's method in limited areas firstly. But that is outside the present subject, and until we have such a scheme, it is our duty, as veterinary surgeons, to teach the farmers the value of a tubercle-free herd; and to educate the public to the value of tubercle-free milk. The greatest help would be given to the clearing of our herds if the public would give a little more for tubercle-free milk, even $\frac{1}{2}$ d. or a penny per gallon of an increase.

We understand that the Scottish Board of Agriculture have a scheme on hand to assist farmers in the testing of their herds, but it is unfortunately at present in abeyance.

In the course of discussion the question has come up—"What is an emaciated animal within the meaning of this Order?" Our own idea is that if we find an animal obviously lean and in poorer condition than its neighbours, kept under the same conditions, and we believe this condition to be due to tuberculosis, then we would deal with the animal as suffering from tuberculosis with emaciation.

The valuation regulations have come in for some adverse criticism at previous meetings, a dual valuation being in many cases a difficult task, and a liberal single valuation would certainly have been better.

With emaciated animals they can really only have one value; the animal is suffering from some chronic disease or other, and no matter what it is, her value at this time bears little relation to what the disease is which the animal is emaciated from.

In the case of a bad udder it is rather difficult. You can say, "If this cow had a healthy udder she would be worth so much, but if, as I believe, this udder is tuberculous, then she is worth so much less." But the question arises what is the real difference in the two values, a quarter deficient in milk from any cause reduces the value.

Diagnosis is a question of some moment, and deserves a word in passing; the utmost care is required to safeguard both the owners and the public purse—as well as ourselves—and all the aids we can call on should be used.

Microscopical examination of milk, abnormal dis-

charges, etc., should be done as frequently as possible. This work becomes most interesting, and the time taken is well spent from an educational point of view, apart from its bearing on the case in hand.

There are still some people who have no faith in the tuberculin test, but I believe if you get a reaction in an animal tested under its usual conditions with reliable tuberculin, that animal is affected with tuberculosis. One interesting fact has been impressed upon us in the testing of "piners," and that is that the reaction begins early and passes over quickly. This has been so obvious to us that we now inject the tuberculin in the early morning in the case of "piners" and get the reaction during the day. We have found the temperature rise four degrees within six hours, and within twelve hours after injection the temperature is normal and the usual evidences of a reaction have disappeared. It has been said, and is widely accepted as fact, that a preliminary dose of tuberculin to a reactor will interfere with the test; we have not found this to be so, and on a recent occasion we tested a cow on two successive days and got a similar reaction each time.

As to tuberculin, I don't suppose I need tell this meeting that all that is sold as tuberculin is not reliable.

The diagnosing of cases under the Order affords a finer training in diagnosis than anything that has previously fallen to our lot; here you have an animal to examine, and within a few days you have an opportunity of examining the lesions you have located when the animal was alive. This training, if taken advantage of, should prove of great value when we get those clinical cases included in the Order.

The provision for an owner to nominate a veterinary surgeon to make the post-mortem examination might prove a decided hardship to an inspector, and we think might with advantage be deleted, and the corresponding provisions of the Glanders Order introduced, in which an owner or his veterinary surgeon can be present at the post-mortem examination, and if they see fit, object to the inspector's opinion, and the question is then referred to the Board to decide. This would safeguard the inspector as well as the owner.

The regulations dealing with suspected animals in markets are practically inoperable. No community is going to pay compensation for animals found in its markets if it can get out of it. Take Glasgow market for example; an Ayrshire farmer sells a cow in Glasgow, and a Lanarkshire farmer is the buyer, if this cow has a tuberculous udder, then Mr. Begg would find her in the course of his inspection and deal with her, but why should Glasgow be saddled with the expense which would have been incurred had she been dealt with during the few hours she was in the Glasgow market. The option of returning an animal to the premises it came from is very unsatisfactory. I am glad to know that the Board has this section under consideration for amendment. A possible solution may be to pay no compensation for affected animals found in markets in all cases where the owner should have suspected the animal himself. With a "piner" it would be obvious to the owner that something was wrong, and also in many cases of tuberculosis of the udder, and reporting them as suspected would safeguard himself and cost him nothing.

The cost of this Order is not going to be such an expensive matter as some people thought, if the number of cases occurring continues as at present. The compensation, of which the Treasury pays half, is the least of it, and I think the local authorities have a decided grievance in that the Treasury is not paying half the cost of administration as well as half the compensation.

As to compensation, we have a few cases in which the salvage has exceeded the amount payable in com-

pensation; this has arisen in this way. According to the Order any emaciated carcase in which tuberculous lesions are found is an advanced case, on which, of course, one-fourth of the value would be paid as compensation. We all know that some animals, emaciated from tuberculosis, have only a few localised lesions involving some vital organs, and when these are removed the carcase itself would be passed by any reasonable meat inspector. Take one of our cases as an example. A cow was suffering from tuberculosis of the larynx, was emaciated, and coughing persistently—obviously a case within the scope of the Order. When she was killed, apart from the larynx only a few tubercles were found in the lymphatic glands of the chest, and the case was quite clear. According to the Order, this was an "advanced case," while the whole carcase was passed as fit for food.

As to our dealings under the Order in our district of Ayrshire, we have now had above forty cases the majority of which have been emaciated animals; five negative cases.

In the early summer all our cases were animals which we had been called to see in our every-day practice, few of the owners having known anything, or at any rate not very much, about the Order. In August our county clerk issued a *résumé* of the Order to all stock-owners, and held meetings at five centres in the county, accompanied by the veterinary inspector of the district in each case, at which the provisions of the Order were explained. This has resulted in quite a number of our later cases having been reported by the owners themselves.

Here, all the work in connection with the Order has been delegated to the veterinary inspectors, so that there is no delay such as has been reported by some inspectors. On receiving a report we usually make our first visit at milking time, when the cows can be conveniently examined, and in this connection I would advise inspectors to worry the farmers as little as possible; no good can come of adopting an over-bearing manner. Having made a clinical examination of the reported animals, and of others we may suspect, arrangements are made for testing, or a sample of milk is taken for examination.

The valuation is a mutual arrangement between the owner and ourselves, and so far we have had no occasion to call in a valuer, in many cases, in fact, the matter has been left in our hands. Our diseased valuations for emaciated animals have ranged from four pounds in cases of a young heifer to twelve pounds for a pedigreed cow.

In positive cases, having examined the milk or tested the animal with tuberculin, we serve the notice of intended slaughter on behalf of the local authority.

We have all our animals killed in Kilmarnock slaughterhouse, usually removed by float by the butcher who has taken all our cases. Having made the post-mortem examination, the necessary certificate is given to the owner, and we pay the compensation due. Having got his receipt, our papers are now completed and sent to the local authority. I have here copies of the forms we use, if they are of interest to any of you.

With this way of dealing with the cases there is no waste of time; not more than three days at the most elapsing between the animal being reported and the death of the animal. The average nett compensation in the cases dealt with has worked out at about thirty shillings.

Now, gentlemen, you have been very patient; I am afraid I have wandered at times from the Tuberculosis Order, but I trust I have raised some points in connection with it, which will promote a useful and interesting discussion.

The after discussion was joined in by Mr. Peter McIntyre, Greenock, who desired to thank Mr. Douglas for his opening discussion, but differed from him as to an emaciated carcase being passed as fit for food.

Mr. JOHN TAYLOR, Cathkin, congratulated Mr. Douglas, and said that all private practitioners welcomed the Order. While he considered it to be a step in the right direction, he spoke of the difficulties affecting the general practitioner in the carrying out of the Order, and cited a case of emaciation which he reported: the animal was tested and the milk, etc., examined, result negative, still, when the cow was slaughtered the carcase showed generalised tuberculosis. He was also of opinion that one could not say when an indurated udder was tuberculous or not. In such a case he suggested that the veterinary inspector get a sample of the milk to examine and report result to the veterinary attendant.

Mr. HUGH BEGG said he scarcely agreed with Mr. Douglas when he spoke of tuberculous mammitis as being nodular in character. His experience was that the lesion was often single and whether large or small, had an irregular outline, was incompressibly hard or fibrous, and painless, and had no band of connection to the skin, such as is met with in the induration that is left from other infections that have given rise to abscess formation.

The PRESIDENT thanked Mr. Douglas for the able manner in which he had opened the discussion, and proposed a hearty vote of thanks, which was cordially responded to.

On the proposal of Mr. Begg, the discussion was adjourned.

A cordial vote of thanks was accorded to the President, who afterwards entertained the members to dinner in Brown's, Ltd., St. Vincent Street, where a most enjoyable evening was spent.

JNO. F. MCINTYRE, Hon. Sec.

Anthrax at Bradford.

An inquest on the body of Henry Wilson, 42, carding jobber, of Stirling Street, Bradford, was held by the Bradford City Coroner. Wilson was found dead in bed and a post-mortem examination showed that death was due to generalised anthrax.

It was stated in evidence that until October 2 he had been working at a wool-combing shed at Shipley, and he lodged with a man named Heald, who was employed at some other wool-combing works. They slept together and in the shirts in which they worked.

Dr. Eurich, bacteriologist to the Bradford anthrax investigation, said that Wilson could not have had anthrax germs in his blood when he left work on Oct. 2. The maximum duration of anthrax was five days. Wilson might have had it in his clothing and inhaled it, or he might have inhaled it from the clothing of his fellow lodger, Heald. He might have had infection in his own shirt after he left off working, for the bacilli lived for 20 years.

The jury returned a verdict that "Wilson had died from anthrax, but that there was no evidence to show where, or in what circumstances, he had contracted the disease."

DISEASES OF ANIMALS ACTS 1894 to 1911, SUMMARY OF RETURNS.

Period.		Anthrax.				Foot-and-Mouth Disease.		Glanders† (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever	
		Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered.
		Con-firm'd	Re-ported	Con-firm'd	Re-ported									
Gr. BRITAIN.	Week ended Nov. 8	17		17				2	3	18	53	6	52	364
Corresponding week in	1912	9		9				4	4	27	32	9	56	732
	1911	18		21				5	12			8	32	357
	1910		23		33			4	7			7	37	379
Total for 45 weeks, 1913		475		524				132	321	2121	4216	153	2162	28014
Corresponding period in	1912	659		741		82	639	158	292	2529	5349	217	2584	35109
	1911	761		938		18	467	185	443			331	2146	25750
	1910		1258		1503	2	15	323	940			374	1292	12022

† Counties affected, animals attacked: London 3.

Board of Agriculture and Fisheries, Nov. 11, 1913.

IRELAND.		Outbreaks				Animals				Slaughtered			
Week ended Nov. 8		...	...	...	...	...	...	...	...	...	...	...	...
Corresponding Week in	1912	...	...	2	8	...	...	...	...	1	14	2	7
	1911	...	1	1	...	...	...	...	...	...	4	7	108
	1910	...	...	1	...	...	...	...	...	1	4	1	34
Total for 45 weeks, 1913		...	...	...	...	1	1	111	436	127	821		
Corresponding period in	1912	...	3	3	68	382	...	...	58	304	200	1610	
	1911	...	8	15	...	...	2	3	53	287	122	2109	
	1910	...	7	11	...	...	1	2	63	391	83	1903	

* These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Nov. 10, 1913
NOTE.—The figures for the Current Year are approximate only.

The Treatment of Anthrax.

Good work that has been done all over the West Riding by the Anthrax Investigation Board for Bradford and District, whose annual reports are the best authority on the subject, deserves careful study. For example, in the year ended October 31st, 1912, 1,258 samples of wool, mohair, etc., were tested for the presence of anthrax spores, and 84 gave a positive result. Twenty-three firms co-operated in the sending of samples.

The chief risk of infection is in "skin van mohair," Turkey and Cape Mohair, and Persian wools. Blood-clots and blood-stains are the great carriers of the infection; they are "a danger-signal of the first importance"; but in the last year it has been found possible to cultivate the anthrax bacillus from materials free of any trace of blood. "This seems to have made the problems before the board more difficult of solution." Experiments are continuously being made with germicides and disinfectants—steam, hydrochloric acid and sodium chloride, formalin, cyllin, etc.—but the difficulty still remains how to ensure perfect and practicable disinfection of thousands of tons of material without injury to the material. Incessant care is taken to protect and instruct the workers; but with an industry so vast it is inevitable that cases of infection should occur. In seven years (1905-1912) the board has been notified of 88 cases. The number of cases notified last year was 18, of whom five died.

Sclavo's serum treatment has been in use about 12 years. The old treatment was to excise the place of infection, and to fight the poison with stimulants, quinine, and so forth. But excision was not always possible; for instance, the place of infection might be on the face. Sclavo's serum treatment has almost or quite done away with the need of excision. It is not a perfect treatment; no serum treatment, not even diphtheria-antitoxin, is perfect; still, there is no room for doubt that it is of very great value. Sclavo himself has published two sets of anthrax cases thus treated—one set of 67 cases with two deaths; the other set of 164 cases with ten deaths. (See Dr. Legge's Milroy Lectures on Anthrax, 1905). Dr. Eurich, who as bacteriologist to the Bradford Board, has seen more cases of anthrax in a year than most doctors see in a lifetime, has notes of 85 cases treated with Sclavo's serum, and is convinced "that a greater number of very severe cases recover under the administration than did before we used the serum here."

Salvarsan has been used in anthrax with success by Becker, Bettmann, and Laubenheimer; and in these three cases it had what we may call "a fair chance." In two other cases, where the patient was already dying, it failed, though in one of them there was for a short time a marked improvement. In the case recently reported there is evidence that the patient's previous health had not been thoroughly sound; that the disease was rapidly gaining ground in spite of the serum treatment; and that salvarsan offered the only hope of saving his life.—*The Times*.

The Dinner to Sir T. Elliott.

On Wednesday evening, Nov. 5th Sir Thomas Elliott, for twenty-one years Secretary to the Board of Agriculture, and prominent in many national and international agricultural movements within that period, was the special guest of the Royal Agricultural Society of England, at a dinner held at the Hotel Cecil, under the presidency of the Earl of Northbrook. Amongst the company were: Mr. Henry Chaplin, M.P. (under whose régime as first President of the Board of Agriculture Sir Thomas Elliott was appointed), the Duke of Devonshire, the Earl of Lichfield, Lord Barnard (Chairman of

the Central Chamber of Agriculture), Lord Blyth, Lord Lucas, Lord Morton, Sir Ailwyn Fellowes, Sir John Cotterell, Bart., Sir Gilbert Greenall, Bart., Sir J. B. Bowen-Jones, Bart., Sir Henry Wiggin, Bart., Mr. Alex. E. Parker, Mr. Ed. G. Strutt, Mr. H. L. C. Brassey, M.P., Mr. W. Anker Simmons (Chairman, Farmers' Club), Mr. Charles Bathurst, M.P., Sir John M'Fadyean, Dr. Voelcker, Mr. W. Harrison, Prof. Penberthy, Mr. A. A. H. Matthews (Secretary, Central Chamber of Agriculture), Prof. J. McCall, Mr. Thomas McRow (Secretary, R.A.S.E.), and others.

Mr. CHAPLIN, in proposing the toast of the evening, said that twenty-one years ago, after he had been appointed as the first President of the newly-created Board of Agriculture, it was his privilege to appoint Sir Thomas Elliott to the charge of that great Department. When he became acquainted with their guest he was private secretary to Mr. Ritchie at the Local Government Board. On one occasion, being called on by the late Mr. W. H. Smith to speak on a subject of which, as he protested at the time, he was extraordinarily ignorant, his leader said, "Send for Elliott, he will tell you all about it." He did so, and he believed he made an excellent speech. (Laughter). But when the time came for the Board of Agriculture to be re-constituted, he said, "There is the man," and Sir Thomas Elliott had worked with such success that the Board now occupied a high position in the regard of agriculturists. Mr. Chaplin referred to the valuable services of the guest of the evening in stamping-out the outbreak of foot-and-mouth disease while he was President of the Board, and said he wished to acknowledge the inestimable assistance he himself received from Sir Thomas Elliott while he was head of the Department.

Sir THOMAS ELLIOTT, in reply, said at the time of his appointment the Board of Agriculture was not particularly wanted by anybody. Certainly the Treasury did not want it. It looked upon it as a potential spendthrift, and all his chiefs had great struggles with it. He was not quite sure that agriculturists themselves wanted it. They were all polite, but they were suspicious. He decided that the first necessity was to command the confidence of agriculturists. They aimed at showing that the Board only wanted to do what agriculturists could not do for themselves—to bring pressure upon agriculturists in those things on which the great majority were agreed, and, above all, to remove the idea that they could teach agriculturists their business. He did not think they had been altogether unsuccessful in these aims. Now the old order was changing, and it was very possible that the Department might be merged into a much larger institution, and he recognised that it was not inappropriate that his connection with the Board should be terminated when it did. But, whatever might be in store for them, he would always remember with pleasure that he was one of the small band of workers who established the Department on a firm basis, and who had gained for it, as he believed, the confidence and good will of the great majority of agriculturists.

Clydesdales in the United States.

A correspondent in U.S.A. of *The Scottish Farmer* writing of the Washington State Fair held at North Yakima, says:—

"Mr. Wilson's expressed opinion for the Clydesdale to myself and company, is about all that is poor in the horse line. He had two colts that looked to me a very bad sample of their race, and yet he told us that one of them was fourth in its class (in the hands of Alec Galbraith) at the Chicago International, and that either of them was better than anything he had seen when

over in the old country three years ago. That being so, the old country stock must be in rather bad shape. He went on to state that over there they cared nothing if they had the feet, the legs, and the action; that they forgot all about the top line and the weight, and that from his view-point the Shire was far superior, as he could sell it here, whereas the Clydesdale was not wanted. This despite the fact that he was a Scot and that he got it hot from many friends for going back on the Clydesdale.

The Docking of Horses—Statutory Cruelty to Animals.

At the Marylebone Police Court on Wednesday, Oct. 29th, Jesse Godliman, a carman, of Park Road Mews, Carlton Vale, Kilburn, was summoned before Mr. Paul Taylor, at the instance of the Royal Society for the Prevention of Cruelty to Animals, for unreasonably causing unnecessary suffering to a horse by docking its tail.

Mr. S. G. Polhill, solicitor, prosecuted; and Mr. H. Pierron, solicitor, defended.

Mr. Polhill said that the horse in question came into the possession of the defendant in July, and was worked with its tail entire. He then took it into his head to dock the animal, and cut some inches off the tail. The wound became in a bad state, and it was contended that it was not properly attended to. The only defence offered was that the animal was in the habit of getting its tail over the reins. As regards the docking of horses, it was, he said, a mere fashion, as it was thought that a short tail looked better.

An inspector of the Royal Society for the Prevention of Cruelty to Animals gave evidence in support of Mr. Polhill's statement.

Mr. Alexander Piesse, veterinary surgeon to the Society, stated that when he examined the animal about two weeks after the operation, the end of the tail was granulating and suppurating, there was proud flesh all round it, and about half an inch of bone was protruding. He did not think there was any reason for the docking of horses under any circumstances. In this instance it was simply done to fit the animal for the cart, instead of the cart for the horse. Means could easily be taken to prevent the reins getting under the horse's tail. The operation involved the cutting of four nerves, six arteries, six veins, seven muscles, and the skin, and the searing of the flesh must therefore cause very great pain.

In cross-examination, the witness said that searing was the method invariably adopted in docking, even by veterinary surgeons, but it could be avoided by tying up the arteries.

Answering the Magistrate, the witness said that the operation was performed by persons other than veterinary surgeons, and that any butcher could operate, whether he possessed any skill or not.

Mr. Pierron, for the defence, contended that the operation was necessary, that it was properly carried out, and was, in fact, a correct thing to do.

The defendant said that the animal had a particularly long tail, and he took off three to four inches because every time the tail touched the cart or got entangled with the reins the horse kicked and bolted. Since then it had ceased to do either.

Mr. W. Cawthorne, veterinary surgeon, of Harlesden, said that the horse's tail was properly docked. Although he was against docking as a habit, he thought it was necessary in certain cases such as this.

Mr. Paul Taylor said that this summons was governed by the case of *Ford v. Wiley*, where it was laid down that the operation was not cruelty if it were necessary and for the horse's benefit. In those circumstances he was bound to hold that the operation in this case was of

such a character as not to bring it within the statute. Coming to the operation itself, he formed the opinion that it had not been rightly performed, and that no unskilled person could properly apply the searing iron without causing unnecessary suffering. He fined the defendant 20s., and in view of the general practice of docking, absolved him of any personal discredit.—*The Times*.

Alleged "Overstocked" Cows at Chester. Appeal Allowed.

On Friday, October 24th, at Chester Quarter Sessions, before the Recorder (Sir Horatio Lloyd), Thomas Keenan, cattle dealer, of Newry, County Down, Ireland, appealed against a conviction by the City Justices on a summons by the Royal Society for the Prevention of Cruelty to Animals for unlawfully causing unnecessary suffering to six cows, by causing them to be overstocked with milk.

Mr. T. Artemus Jones (instructed by Mr. T. Moore Dutton) appeared on behalf of the respondents, and Mr. Trevor Lloyd and Mr. T. H. Parry, M.P., (instructed by Mr. R. T. Morgan), represented the appellant.

Mr. Artemus Jones explained the practice followed by some cattle dealers of leaving cattle unmilked in order that they might have a good appearance. It was admitted by everybody concerned that a certain amount of stocking (*i.e.*, letting milk remain in the udder of the cow) was a practice which might not entail suffering, provided it was not carried to an unreasonable extent, and the point which was raised in this case was as to where this reasonable limit was going to be drawn. It was admitted by Mr. Keenan in the court below that in Ireland he milked his cattle twice a day; that was to say that the udders were relieved of their milk every twelve hours. Beyond the twelve hours, undoubtedly, if the udder remained unmilked it entailed discomfort. Beyond the discomfort stage, there was the stage where discomfort merged into the region of pain; and the case for the respondents was that on the facts admitted even by Mr. Keenan, to allow the six cows to remain unmilked for 19 hours resulted in causing unnecessary pain to the animals.

EVIDENCE FOR RESPONDENTS.

Edward Backhouse, Inspector of the R.S.P.C.A., in corroborating counsel's statement, said the practice of overstocking had been pretty general in late years.

Counsel: Is it a practice to allow the milk to remain in the udder, so as to give a cow the appearance of a prolific milker?—It is, to deceive.

In the case of these cattle, would you say it was normal stocking or overstocking?—I should say it was overstocking. All the cows, in my opinion, were suffering pain due to overstocking, and especially two.

In answer to Mr. Artemus Jones' further questions, witness said all the cows were suffering pain, due to overstocking, and especially in regard to two of them—the red and the light roan cows.

Counsel: Did you remain near the cows from the first time you spoke to Keenan to the time when they were milked?—Yes, the greatest distance I was away would be about twelve yards.

At that time could you see whether anybody examined them at all?—No one touched the cows from the time I first examined them until they were milked. Regarding the age of the cows, in his opinion they had all calved from three to seven days, and they would be three to three and a half years.

Cross-examined: He would be very much surprised to hear that two cows had not calved at all. He saw Mr. Storrar, the veterinary surgeon, there, but he did not examine the cows in his presence. Speaking of the

substance which came from the teats on to his hands, he said he threw it to the ground when he was told it was dirt, and he admitted he ought to have kept some of it. Twelve hours was a period quite long enough between the milking of cows. Cows might go sixteen hours without milking, and not suffer from overstocking. Witness then produced his notes and books, and in answer to counsel said he had warned Keenan on no less than six occasions for the same thing—overstocking.

Re-examined, witness said that at agricultural shows arrangements were made by which cattle could be milked there. As a rule they were very careful at shows about this matter.

P.C. Bailey, who saw the cattle at the market, bore out the Inspector's evidence as to the condition of the udders.

Professor G. H. Wooldridge, one of the professors and lecturers at the Royal Veterinary College, and formerly a professor in the Royal Agricultural College, said the description he had heard of the condition of the udders of the cows led him to the opinion that the condition must have been painful at the time they were examined. The normal period between milking was twelve hours. Overstocking caused a cow decided pain, of which there were certain definite symptoms, which he described.

Mr. James Laithwood, Chief Veterinary Inspector for Cheshire, and a large dairy farmer at Congleton, said he agreed generally with Professor Wooldridge's evidence. A period of 19 hours was unusually long for a newly milked cow to remain unmilked, and caused suffering to the animal. Irrespective of the age of a cow and its individual characteristics, there were certain well-recognised symptoms of pain endured by cows when they were overstocked. After 15 or 16 hours the discomfort of the animal became pain. He thought there were arrangements by which cattle could be milked at the Chester cattle market.

Mr. F. G. Edwards, veterinary surgeon, Chester, agreed with the conclusions of the other witnesses.

APPELLANT'S EVIDENCE.

Thomas Keenan, the appellant, said he brought hundreds of cattle from Ireland every week, and came to Chester weekly. He was with these six cows all the time, and in his opinion there was no pain. Four of them only had calved. One cow was foot-sore, but there was nothing the matter with any of the other cows. He had been coming to the Chester fair for 18 or 20 years, and Inspector Backhouse had complained about twice to him, and he had eased them to please the Inspector.

Cross-examined by Mr. Artemus Jones, witness said some cows were overstocked in order to get good prices. He had never heard of such a practice as stopping up teats, until this case. He had never seen a cow overstocked. He paid Mr. Storrar to see that the cows were not overstocked at the fair.

Peter Henshall, farmer, of Knutsford, who bought the cows, said he was perfectly satisfied with his purchase. When he bought them he did not think they were in pain, or overstocked.

Cross-examined: They did not judge entirely by the fullness of the "bag." If he were selling a cow he would milk it the day before.

Counsel: So that it would have a "good bag?"—Yes.

Witness said he had seen a cow "over-bagged" or "overstocked." He did not think "paddling" was one of the signs. If "over-bagged" a cow's hair stood up. "Have you ever seen a cat going for a dog?" asked witness, to see if counsel understood. The laughter drowned Mr. Artemus Jones' answer.

Replying to Mr. Trevor Lloyd, witness said that what the Inspector took from the teat of the red cow, and what had been referred to as "dirt," was wax which springs from the cow owing to her uncalved condition.

Alfred Gosmore, pig dealer, said he saw the cows milked at 3 o'clock the day before the fair.

Patrick Keenan said he saw the cows at the fair at 10 a.m., and they were not overstocked.

James Storrar, M.R.C.V.S., Inspector under the Board of Agriculture, and a practical farmer of 17 years' standing, said he bought cows frequently. He had attended every fair at Chester for the last twelve months. He was there for the purpose of advising farmers and seeing that their animals were properly treated. They came to him as a deputation, and said they were so humbugged by the interference of Inspector Backhouse that they asked witness to come and see the cattle. On this day he saw these six cows and he examined four. Two had calved and two had not. The roan cow was foot-sore. He examined the bags individually, and thought the roan was a bit lame. To be quite sure he ordered a man to "strip" her, and this was done in his presence. There was nothing in their condition to make him think they were in pain. They were all good cows, perfectly healthy; they were chewing the cud and looked quite happy and comfortable. After they changed hands the cows were milked and taken to the station. Cows were usually happy when they were chewing the cud. A cow would eat when it was ill, but would not chew the cud.

Cross-examined by Mr. Jones, witness said he could not say that he had ever seen a cow really overstocked. He was employed by the Irish dealers in the Chester market. He had never given evidence for the Irish dealers before. On that day he examined about 50 cows at the fair on behalf of Irish dealers.

Mr. Stafford Jackson, veterinary surgeon, Liverpool, said in his opinion the cows were not overstocked. For that opinion he had three reasons. The first was that the length of time was not sufficient owing to the fact that nature rebelled against overstocking, and the milk was liberated from the teats. The second reason was the cud, which was a most important thing. In the ruminant the cud was the first thing that was lost in sickness, and it was the last thing that was regained in convalescence. It seemed to him to be absurd to say that a cow chewed its cud when suffering pain to such an extent that cruelty was caused. He had never seen such a case. Thirdly, he had heard no evidence that these cows suffered any inconvenience to their udders the next day. In every case of bad stocking he had seen—and he had seen some very bad ones through cattle being detained on the railway—there was always some after-trouble. That was one of the reasons why a dealer had said he would not buy a cow that was overstocked.

Cross-examined: "Paddling" was a symptom of "overstocking," an arched back might be in some cases, not in all. A hard udder would be a symptom, but not necessarily a distended udder. If a cow were in great pain witness would not expect it to chew the cud. He agreed that if the milk were retained in the udder, discomfort would ensue, but when it did, the gland would relieve itself naturally. He agreed that if colloidion were used to block up the teat artificially the gland could not relieve itself. If colloidion had been used to block the teat, it was one of the most brutal cases of cruelty he had known, and he (witness) would not be there.

In reply to Mr. Trevor Lloyd, witness did not believe colloidion had been used in this case. "If it had been colloidion, Backhouse would have had it here. I have known Backhouse for twenty years." (Laughter.)

James Wilson, veterinary surgeon, said he had had considerable experience with dairy cows, and agreed with what Mr. Stafford Jackson had said. If the animals were suffering pain, the practical farmers would have noticed it.

Cross-examined: Witness would expect increased

respiration—the animal blowing—if the animals were in pain through overstocking. His opinion was that if the animals were in pain they would not have been chewing the cud.

Mr. Trevor Lloyd intimated that he had three more veterinary surgeons, but he thought he would take the responsibility of not calling them, and leaving the evidence where it was—unless the court intimated that more evidence was wanted.

His Honour shook his head.

John R. Turton, farmer, Storeton, said in the depth of winter they milked at night about four o'clock, instead of at noon. Witness did not know that this caused any pain or inconvenience to the cows. If he thought so he would alter the times of milking. At the Wirral Show he had been cattle steward for many years, and there they had the pick of the cows in the country. He had seen these cows milked at six o'clock at night in the presence of the stewards, and milked again on the following morning in the presence of the judges at eleven o'clock, and sometimes nearly twelve. He had not known these cows suffer pain through being left to that extent of time.

Richard Jeffs, farmer, said he milked his cattle at five in the morning and one in the afternoon.

John Foster Pickering, another farmer, said he saw these particular cows on the day in question, and advised his son to buy them if he had a chance. He did not see the cows were suffering pain. They were perfectly comfortable and happy. Cattle did not chew their cud when in pain.

John Minshull, farmer, Mollington, said he knew some of the symptoms of overstocking, but when he heard that the cows were chewing their cud he could not believe they were in pain. A cow in pain would not chew her cud.

THE APPEAL ALLOWED.

In allowing the appeal, the Recorder said there was no evidence to satisfy him that the cows were suffering from the complaint alleged at the time of the sale. On the contrary, there was a large amount of evidence which showed that, so far as outward appearances went, they were in proper condition. He attached importance to the evidence of Mr. Pickering, as one who saw the cows at the market, and advised his son to buy them, and he was a man who had been farming all his life. It was impossible to overlook evidence like that. All the evidence pointed to the same conclusion, that the cows were in a proper condition, and not undergoing any unnecessary suffering.

Mr. Artemus Jones asked the recorder to state a case upon the point that the cows had not been milked for nineteen hours. The Society, he said, were anxious to have the matter definitely settled.

The Recorder declined to state a case, stating that he found there was no unnecessary suffering, whereupon Mr. Artemus Jones said he would have to take other steps.

A Milk Consumer's Complaint.

The following letter was received by the Medical Officer of Health of a large town and handed over to the Veterinary Inspector:—

Dear Sir

I am writing to you about the Milk Supply to S—— will you see in this matter.

Mr. — of — his bringin Milk whare he keep Pig whare he keep Cow and ware he Sile the Milk he ass Pig and it Seem dredfull for I am a Milk consumer but i Shall not By aney more Milk from that farm Til thing his put right and i think that he dose not out to sell Milk in this way.—I am a rat Payer of S.

The Hunting Memorial Fund.

The meeting to inaugurate this Fund was held at 10, Red Lion Square, on Thursday evening. Prof. Macqueen was elected Chairman, and Mr. Henry Gray, Secretary and Treasurer. It was decided to commence by erecting a monument upon Mr. Hunting's grave, and to at once purchase extra ground for that purpose. What further steps will be taken will be decided later—a students' prize competition and an annual lectureship were both suggested as fitting memorials. The General Committee of the Fund was then constituted as follows: The Presidents and Secretaries of all existing Veterinary Societies in England, Scotland, Ireland, Wales, and the Colonies; the Members of Council of the R.C.V.S.; the Principals and Professors of all English, Scotch, Irish, and Colonial Veterinary Schools; all veterinary officers of the Board of Agriculture and of the Department of Agriculture and Technical Instruction of Ireland; all officers of the Army Veterinary Service at home and abroad; and all officers of the Indian Civil Veterinary Department. An Acting Sub-committee—five to form a quorum—was then elected as follows:—Prof. Macqueen, Mr. H. Gray, Sir John McFadyean, Sir Stewart Stockman, Maj.-Genl. Smith, Vet.-Capt. G. Rees-Mogg, and Messrs. R. C. Irving, J. Emerton, Hugh Begg, W. Roger Clarke, Wallis Hoare, H. A. MacCormack, and Prof. G. H. Wooldridge.

The next meeting of the Sub-committee will be on December 12th, 7.30 p.m., at 10 Red Lion Square; and there will be a meeting of the General Committee in January, on the evening of the day of the R.C.V.S. Committee meetings.

The Fund is thus in working order, and Mr. Henry Gray will be pleased to receive subscriptions at 23, Upper Phillimore Place, w. Below is a list of sums already received or promised at this early stage:—

Subscriptions Received up to 7.30 p.m., Nov. 13th, 1913.

	£	s.	d.
Mr. Joseph Emerton, Wandsworth	5	5	0
Henry Gray, Kensington	5	5	0
Granville Gray, Kensington	1	1	0
C. Roberts, Tunbridge Wells	1	1	0
Albert Farrow, Kensington	1	1	0
William Stevens, Westminster Bridge Rd.	1	1	0
Pugh, Buckingham Palace Road		10	6
Marshall, Denmark Hill	1	1	0
Henry Boyer, Paddington	1	1	0
Mulvey, Chelsea	1	1	0
S. W. Pratt, Shanghai, China	1	1	0
Rushie Grey, Royal Vety. College		10	6
	£19	19	0

Subscriptions promised at close of meeting:

Prof. Macqueen	3	3	0
Mr. W. J. Watt, West Brompton	2	2	0
Hugh A. MacCormack	1	1	0
R. C. Irving	10	10	0
W. L. Harrison	1	1	0
Vet.-Capt. G. Rees-Mogg	1	1	0

Foot-and-Mouth in Sussex.

The existence of foot-and-mouth disease among cattle at Street farm, Westham, near Eastbourne, East Sussex, was confirmed on Wednesday.

The Board of Agriculture announce that the usual precautions have been taken to prevent the spread of the disease, and an Order has been issued prohibiting the movement of animals in a large area surrounding the affected farm.

As a precautionary measure the Irish ports have been closed against all cattle from England.

Limitations of the Tuberculosis Order.

At the annual meeting of the Aspatia Agricultural Co-operative Society, Mr. H. THOMPSON, speaking on the new Tuberculosis Order which came into operation on the 1st of May this year, said: Although a step in the right direction it does not go far enough, as it only deals with three forms of the disease. The Order mostly relates to the udder and milk. There is nothing in the Act which empowers the Veterinary Inspector to deal with tubercular disease of the chest—one of the worst forms for spreading the disease—unless the beast be emaciated as well.

Mr. Thompson also gave a good explanation of the methods in use for combating Contagious Abortion, in the course of which he pointed out that abortion in cattle is almost as bad as tuberculosis to the stock breeder and feeders. As a preventive, experiments have been carried on in Oxfordshire from 1911 to 1913. According to the return, there are about 23,824 cows and heifers in that county; 16,390 of these are in milk, and the quantity of milk is estimated to be about 9,014,500 gallons a year, valued at £300,500. Experiments have been carried on in 14 herds, and so far have been considered very successful.

Mr. Thompson's paper was listened to with great interest, and he was thanked at the close.—*The West Cumberland Times*.

Donation to R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following donation to the College funds for 1913:

Mr. Geo. Garnett, Hove, Sussex £1 1

Superstitions.—One of the speakers at the recent meeting of the Central Chamber of Agriculture said he "read the other day that there was a widely-spread idea among farmers that they could avoid abortion in cows by cutting off the cows' tails." He added that "instruction was needed to cure such ideas." Not long since, investigations as to the cause of a smoky chimney in a farmhouse occupied by a farmer who despised superstition, disclosed a couple of bullocks' hearts pierced by dozens of pins—an operation that had been performed to remove a "spell."

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, Nov. 11.

REGULAR FORCES. ARMY VETERINARY CORPS.

The following Lieuts. (on probation) are confirmed in their rank:—

H. E. A. L. Irwin, T. J. Davis, J. Going, and F. B. Sneyd.

Personal.

Mr. T. CHAMBERS, M.R.C.V.S., was elected on the 10th inst., for the third time Alderman for the County Borough of Dudley.

Mr. T. DUNLOP YOUNG, Chief Veterinary Officer to the City of London Corporation, arrived in Buenos Ayres by the R.M.S. "Andes" on Tuesday evening, 14th ult. Mr. Young, who is accompanied by Senor del Castillo, the veterinary representative of the Argentine Ministry of Agriculture in London, was met on his arrival by the Director of the Live Stock Depart-

ment, Dr. José Leon Suarez, representing the Minister of Agriculture, and a Secretary from the British Legation. Mr. Dunlop Young has come to this country on the invitation of the Argentine Government to make an inspection of all the details of the conditions under which meat is prepared for export.—*Review of the River Plate*.

OBITUARY

ARTHUR VICTOR WILLIAM SEWELL, M.R.C.V.S., Wickford Essex. Graduated, Lond: Dec., 1902.

The Southwark Coroner, on Friday, 7th inst., opened an inquest concerning the death of Arthur Victor William Sewell, aged 34, a veterinary surgeon, of Wickford, Essex, who was found unconscious on the platform at Mark Lane Station, and died on the way to Guy's Hospital. A bottle labelled "Poison" and a packet of cigarettes soaked in prussic acid were found in his pocket. It was stated that he had no troubles of any kind, but in his pocket was found a letter addressed to his brother, in which he said: "Please forgive me, but I have been through a terrible mental strain."

The inquest was adjourned for the attendance of a medical witness.

Dr. S. Taylor, of Guy's Hospital, whose absence had caused the inquiry to be adjourned, explained that the message from the Coroner's officer was not delivered to him at the hospital until the inquest had been adjourned.

Suicide whilst insane was the verdict on the dead man.—*The Evening News*.

CORRESPONDENCE.

DIAGNOSIS.

Sir,

Under this heading, Mr. Wallis Hoare, in your issue of the 8th inst., replies to a letter of mine which appeared in your issue of the 1st inst.

I am pleased that Mr. Hoare agrees with me that no one has a right to publish an article "in which the writer admits his want of skill in such a manner as to make it appear that necessarily all members of the profession are equally unskilful," but I am sorry that he should consider it necessary to deny that in any article written by him he was guilty of so doing, especially as I avoided making any personal remarks.

I do not accept his pronouncement that, "if I form a definite opinion in a large number of cases, and find that in these cases my opinion is always supported by post-mortem evidence, then indeed I must have exceptional skill in diagnosis." No matter how confident Mr. Hoare may be from his experience, I consider it a calumny to make such a statement *re* the ability of the members of the profession in this matter—that it is exceptional for anyone to diagnose the majority of ailments in cases submitted to him for examination. I have no doubt that most of the members of the profession would consider it an insult to be told that they did not know what the majority of their patients were suffering from, and it is writing in this vein that I consider objectionable, whether it is written in the "first person plural" or otherwise.

I have read many of Mr. Hoare's articles with much pleasure, and gained information from them, but I suppose that so prolific a writer cannot be expected to give to us nothing but the golden grain, and now that he agrees with me I hope that his ready pen will in the future uphold, in no equivocal manner, the ability, integrity, and honour of our profession.—Yours truly,

JAN. MCKENNY.

Dublin. Nov. 11.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1324.

NOVEMBER 22, 1913.

VOL. XXVI.

THE HUNTING MEMORIAL FUND.

Last week we reported the inauguration of this fund, and a subscription list which, though no public appeal has yet been made, fell little short of £40. To-day we publish a second subscription list, and it is possible to add some further information.

At last week's meeting, it was decided to erect a monument upon Mr. Hunting's grave, and to purchase additional ground for that purpose. This purchase has been completed, and the monument will be proceeded with; but this will only require a comparatively small portion of the sum it is hoped will be raised. The major part will be devoted to some veterinary object which will help to preserve the name of William Hunting to future generations of our members—such as the annual lectureship or prize competition which have already been suggested, but the decision will not be made hastily. It cannot well be made until the approximate amount of money which will be available is known; and it will not be made before the profession has had ample opportunities of considering the matter.

The fund will probably remain open till towards the end of next year; and in the meantime all suggestions regarding its application will receive full consideration.

The large Committee which will make the final decision is so thoroughly representative of all sections of the profession that its choice must surely be a suitable one. It is probable that the money will be transferred in trust to the R.C.V.S., for, whatever form the memorial may take, that body will probably be the fittest to administer it.

We wish well to the fund. William Hunting's life and work are still fresh in all our minds; and the profession for which he did so much will welcome this opportunity of perpetuating his memory.

DIAGNOSIS AND CONFIRMATION.

Mr. T. A. Douglas recently pointed out that the Tuberculosis Order "affords a finer training in diagnosis than anything that has previously fallen to our lot." He said "You have an animal to examine, and within a few days you have an opportunity of examining the lesions you have located when the animal was alive." This is quite correct; and a veterinary inspector working carefully and keeping notes might succeed in advancing our knowledge of the clinical diagnosis of tuberculosis. We note the point as a suggestion to clinicians. It is one of those chances of carrying on research in daily practice that are more common in our work than some men realise.

YEW POISONING.

W. R. DAVIS, M.R.C.V.S., Enfield.

Most of the cases of poisoning by yew that I remember to have seen recorded are described as having run a rapidly fatal course. Six years ago I myself saw a horse die a few hours after eating yew twigs, it in fact died in the road very soon after being taken out of harness. Every animal poisoned by yew, however, does not succumb quickly.

Recently I had a telephone message at night requesting my attendance next day to advise about a Jersey cow that was reported as not seeming well. As I did not deem the case urgent, I put off the call until the afternoon. At mid-day I had an urgent call to come at once, and on arrival found the cow dead.

I was informed that up to the previous morning the cow was alright, when she appeared to be dull refused food, ceased to ruminate, and gave much less milk than usual, and had slight diarrhoea. She remained in this condition all that day and up to nearly mid-day of the day she died. The cow was then found going round the box, staggering, holding the head low, shaking the head, and pushing with it against the walls. There was some salivation and grinding of the teeth. After the onset of these symptoms, the cow lived about a couple of hours. I suspected some acrid narcotic poison, but was informed that there were no poisonous plants in the field where she had been at pasture, and particularly that there was no yew.

I made a post-mortem, and as a result of it was convinced that I had to do with vegetable poisoning. A careful examination of the field and the hedges was made, and in the shrubbery next the field some yews were found, and a break in the fence showed where the cow had got to one of them. I am glad that I did not attend on the previous evening or on the morning of the cow's death. I hardly know how I should have diagnosed the case then.

There are two poisonous principles in yew toxin, an alkaloid with a powerful narcotic action and a formic acid-like principle, which produces intense irritation of the digestive mucous membrane. In the case recorded here it looks as though the brain disturbance from which the cow evidently died was delayed until absorption of the toxin was more or less complete, and it was in sufficient quantity in the blood to affect the nerve centres.

EXTENSIVE RUPTURE OF THE STOMACH IN A FOAL.

D. C. GREENE, M.R.C.V.S.

The subject was a cart foal between six and seven months old, which had been running out at grass until two days before the illness, when she was brought in owing to bad weather.

The animal was first noticed to be dull and off her feed on the morning of the 12th inst., and the owner, suspecting a chill, sent for me early in the afternoon.

The symptoms then presented were:—The animal stood with her head hanging down and was disinclined to move, the temperature was 101.7 F., and the pulse did not seem to denote anything very serious; the respirations seemed normal, except that they were very shallow; there was no pain, no sweating, nor any sign of ingesta coming from the nostrils, neither was there any sign of vomition.

The treatment consisted in the administration of sp. etheris nit., with quinine and some linseed oil.

The owner noticed the animal sweating slightly, and occasionally looking round to her sides during the course of the evening, and about three o'clock in the morning she died suddenly.

Post-mortem at 10 a.m. On cutting into the abdomen a quantity of gas escaped from the peritoneal cavity, and on the incision being enlarged, a large quantity of ingesta was seen covering the bowels. This was removed, the amount being estimated at four gallons. The stomach was found to be ruptured along its greater curvature to the extent of quite fourteen inches, and was almost empty.

The case seems worthy of recording owing to the obscure cause, the absence of any symptoms which would lead one to suspect stomach trouble, the extensive rupture, and the enormous amount of ingesta found in the peritoneal cavity.

ABSTRACTS FROM FOREIGN JOURNALS.

THE EARLY STAGES OF BOVINE MAMMARY TUBERCULOSIS.

Zoest and Kracht-Palejoff published last year (*Zeitschr. f. Infektionskr. u.s. w.d. Haustiere*). They carried out researches upon the udders of sixteen cows, all of which animals were affected by general tuberculosis. None of the udders showed any abnormality to the naked eye; but inoculation into guinea-pigs proved the presence of tubercle bacilli in the supra-mammary glands in eight cases—equalling 50 per cent. of the whole. In four of these eight cases—that is, in 25 per cent. of the whole—histological examination demonstrated tuberculous lesions in the halves of the udders appertaining to the supra-mammary glands containing bacilli. From these results the authors draw the highly important conclusion that in general

tuberculosis of cattle an udder tuberculosis is far more frequent than has hitherto been supposed.

After a histological study, the authors divide this early and purely microscopic tuberculosis of the udder into two forms, viz., a disseminated sub-miliary tuberculosis of the inter-alveolar tissue, and a more diffuse tuberculosis of the excretory ducts. In both forms the process begins, not in the epithelium of the cavities of the gland, but in the connective tissue, and probably in connection with capillaries. In both forms, also, the epithelium of the alveoli and excretory ducts is quickly lost at the places adjacent to the tuberculous centres, so that the latter break out into the excretory system. In other words, bovine mammary tuberculosis is a disease with open lesions almost from the beginning of its course; and these lesions may be open before any clinical symptoms appear to cause even a suspicion of tuberculosis.—(*Berliner Tier. Woch.*)

[If these views are well-founded, they are obviously of great importance in the working of our Tuberculosis Order.—*Transl.*]

THE TREATMENT OF TETANUS.

Prof. Schmidt, in a report of the work of the Veterinary High School of Dresden, for the year 1912, compares the results of nine cases of tetanus in the horse. Two were treated with morphia and chloral hydrate alone, and the other seven with tetanus anti-toxin. The two first-named horses were both slaughtered as incurable, one after 12 hours and the other after 3½ days of treatment. Of the other seven, one was slaughtered, two died, and four recovered.

The antitoxin was given intravenously, and in large doses. Five horses received 1000 units each, one 900, and one 500. The one treated with 500 units died, and the one treated with 900 units recovered. Of those treated with 1000 units, one died and a second had to be slaughtered, while the others recovered. The periods taken for recovery in the four successful cases were respectively 16, 23, 28, and 33 days.

In Schmidt's view, these results point to the following conclusions. Even when large doses of antitoxin are employed in the treatment of tetanus, they have no especially favourable influence upon the percentage of mortality. But when recovery does take place under large doses of antitoxin, the duration of the illness is sensibly shortened. Under other methods of treatment a period of from six to eight weeks may be expected before the tonic spasms disappear. In these four cases they disappeared in from 16 to 33 days; and the average period required for recovery was exactly 25 days.—(*Münchener Tier. Woch.*)

ECLAMPSIA IN A MARE.

L. Hub, a district veterinary surgeon of Buchloe, records the following case. He was called to a mare which was due to foal in eight or ten days, and which had been for an hour in the most violent convulsions. Before Hub arrived the mare was

brought out of the stable on account of the danger to other horses which her struggles occasioned; and he found her lying upon straw in the meadow. By this time the convulsions had almost ceased, and only now and then the mare showed spasmodic movements of the hind limbs.

A most careful examination revealed nothing abnormal beyond a moderate acceleration of the pulse and respirations. During the whole examination the mare lay apathetically upon the ground as if unconscious, and only when the vagina was explored did she show some convulsive movements of the hind limbs. Hub now attempted to get her up, but failed completely. When raised she collapsed helplessly to the ground again, and lay there with closed eyes almost unconscious.

Although Hub had no great apprehension that premature parturition was imminent, yet it now set in, and a living foal was quickly delivered. The after-birth came away naturally a quarter of an hour later. Cold douches were then applied to the head, and half an hour after parturition the mare raised her head of her own accord, and managed to assume a sitting position. After another half-hour, by the aid of four men, she was brought to her feet and supported back into the stable. Slings were improvised, but these soon become unnecessary, as she was speedily able to stand well.

At first, recovery was rapid. The next day the mare appeared perfectly well and lively, and on the fourth day she was put to light work. Eight days later Hub received the tidings that she was again showing a similar convulsive attack. On his arrival he found her lying in the stall completely covered with sweat, grinding her teeth, and rolling her eyes. As quickly as possible he resorted to cold applications and an injection of morphia, but half-an-hour after his arrival the mare died in convulsions. The post-mortem examination yielded *completely negative results*—*Münchener Tier. Woch.*

W. R. C.

THE STUDY OF LOOSE COMBINATIONS OF OXYGEN IN SOME COLOURED BACTERIA AND FUNGI, K. SHIBATA (*Jahrb. Wiss. Bot.* (Pringsheim, 51 (1912), No. 2, pp. 179-235).

As a result of the author's investigations, carried out with bacteria and other lower forms, the number of bacteria known to bind oxygen loosely was considerably extended. The same capability was found in cases of yeast and of *Monascus purpureus*. The stored oxygen begins to be gradually given off as soon as the pressure of the surrounding oxygen sinks to zero, and this separation continues for a considerable time in an atmosphere such as that of hydrogen, carbon dioxide nitrous oxide or other indifferent gas, as is easily demonstrable by use of aero-kinetic index bacteria. Pure or dilute carbon monoxide displaces the stored oxygen in the bacteria in question. The process is reversed on a sufficient increase of oxygen pressure. The same relation with oxygen is exhibited by some other gases.

The capability of coloured bacteria to store oxygen is retained for some time after the bacteria are killed by moderate heat or by narcotization with ether or chloroform gas. It is not possessed at all, however, by the colourless varieties. The loose combinations of oxygen are modified in characteristic ways by certain oxidizing and reducing agents and by cyanogen.

Parts of various higher plants, containing such colouring matters as carotin or xanthophyll, have been investigated for evidences of such loose oxygen combination, but as yet without positive results. It was found that the bacteria studied were obligate-aerobic, but able to thrive under very slight oxygen pressure. The various bacteria and fungi cultivated in air containing dilute carbon monoxide showed limitation of growth in characteristic ways. This is thought to be attributable to the direct poisonous influence of the carbon monoxide until a very low oxygen tension is reached, when disturbances of respiration set up other marked injurious effects.

It is claimed that the oxygen-binding agents are the lipochrome colouring matters. In case of *Monascus* this process was associated with a colour-change which was studied spectroscopically.

By this method of gas analysis, the separation of loosely combined oxygen was found to be, in general, less than the corresponding change in case of haemoglobin to which it is said to be analogous. These bacteria are said to function as storers, but not as carriers of oxygen.

The biological significance of this storing of oxygen is claimed to be that in case of a temporary exclusion of oxygen, these bacteria can live for a time upon the supply given off from their own colouring matters. These, in this sense, are regulators of oxygen pressure, in a degree removing the aerobic bacteria from the danger of quick oxygen starvation.

SOME DATA ON THE INHERITANCE OF HORNS IN SHEEP.—T. R. ARKELL. (*New Hampshire Sta. Bul.*, 160, pp. 3-35, tables 7, figs. 43).

This contains a review of evidence of other investigators on this topic and a continuation of experimental work, previously noted (*E. S. R.*, 25, p. 373).

In studying inheritance in horns the common measure adopted in comparing size was the ratio of circumference to length. Horns measured every month from birth showed that they reached maturity at about 18 months of age. Tables are given which summarise the various matings that are made, their hypothetical somatic and gametic composition as to horns and other data.

"At three months of age the rams possessed on an average a ratio (length divided by circumference) of in round figures 2, the ewes 1.6; at six months the rams 2.6, and the ewes 2; at one year the rams 3.25, the ewes 2.5; and at 18 months the rams 3.4, and the ewes 2.7. The average ratio of a matured horn, according to our measurements of 48 Dorset horn rams and ewes, was for the ram 3.44 and for the ewe 2.72. Where reciprocal

crosses were made of long horned sheep (Dorset horn) with a hornless sheep (Down), the females were invariably polled and the males always possessed some indications of horn growth, varying all the way from minute scars to a medium-sized horn. The longest horn from such a cross had a ratio of 2.86, and the shortest consisted of a scur with a ratio of 0.32. . . . Matings between hornless sheep invariably produce hornless females, and males that are either hornless or possess intermediate (simplex) horns. The hornless females may be pure or simplex, which selective breeding alone will show, unless their lineage for several generations is known. The hornless males cannot reproduce a horn. . . . The knob condition which seemed to be present only in Merino sheep was found to exist in some cases, without producing a scur or horn, through successive generations. It is thought that the knob represents the duplex condition of the Merino horn, as records show that when crosses with other breeds were made the knob disappeared, the F1 female offspring possessing either an entire absence or a long horn, according to the nature of the mating. When a ewe bearing the knob character was crossed with a long horn ram other than a Merino, the offspring of both ram and ewe possessed a long horn. The length of the horn of the F1 offspring though the ratio of length to circumference was somewhat less than that of the long horns of the Dorsets, clearly entitles the inclusion in the long horn class.

This patently proves that the Merino bearing a knob must possess two horn determiners in her germ plasm; otherwise we should have some hornless females, and males with simplex horns. It further proves that the potent horn determiner of the Dorset is not offset by the weakness of the Merinos, determiner, but rather strengthens it, for the two together are capable of producing a heavy horn almost as large as the pure Dorset horn. The offspring from matings between a hornless ram and a ewe bearing knobs are in every respect similar to a hornless and a long horn sheep; the females show an entire absence of horn growth, and the males bear the usual simplex condition of horns. . . . A peculiar feature of the simplex horn in the offspring arising from the Merino crosses, comprehends a striking irregularity in size between the right and left horns of many individuals. . . .

The wide variation of the simplex horns in the different males is worthy of notice. Apparently the horn determiners and inhibitors do not always exist in equal degrees of strength. The inhibitor at times may so predominate over the single determiner as to reduce somatic appearance of horn growth to a considerable extent. A wide variation was found in simplex horns in Southdown-Dorset crosses. With the exception of the Merino crosses, no extracted females possessed the slightest vestige of horn other than a perfect long one, which shows how completely the single horn determiner is held in abeyance by the double inhibitor.

In the F2 individuals obtained from Merino crosses with hornless sheep, a reappearance of long horns in the rams occurs, although the ratios of

these horns are somewhat less than the average for the horns of Dorsets. The ewes either bear knobs, scabs, or are hornless. The striking dissimilarity between the lengths of the right and left horns of Merinos, especially simplex, is also shown."

F. E. P.

NORTH MIDLAND VETERINARY ASSOCIATION.

The quarterly meeting was held at the Grand Hotel, Leopold Street, Sheffield, on Tuesday, October 21st, the President, F. L. Somerset, Esq., in the chair. Also present: Messrs. J. S. Lloyd, Hon. Sec.; H. Thompson, Sheffield, Hon. Treasurer; G. Green, S. E. Sampson, E. G. Johnson, T. Bowett, T. C. Fletcher, H. P. Lewis, A. D. Morgan, J. Abson, H. R. Laycock, W. Collinson, C. S. Smith, W. Brown, W. Murgatroyd, G. J. Furness, and S. H. Nixon. The visitors present were—Messrs. H. Sumner and H. W. Dawes, junr.

The minutes of the last meeting were read and confirmed: also the report of the Council meeting held on Oct. 7th.

Arising out of the latter the Association decided to affiliate with the Northern Branch of the National Veterinary Medical Association.

The chief matter for consideration was a discussion on "Veterinary Politics," introduced by HENRY SUMNER, Esq., of Liverpool, and as Mr. Sumner had to leave to catch an early train the President immediately called on him to introduce his paper.

VETERINARY POLITICS.

By HENRY SUMNER, F.R.C.V.S., Liverpool.

Gentlemen,—I trust you will excuse my temerity in appearing amongst you to initiate a discussion on the politics of our profession; discussions are now popular, and rightly so, and have been the means of inducing a free expression of opinion; I hope to-night's will in no way fall short of that ideal. There are many matters, in my opinion of supreme importance, upon which as a member of Council I am anxious to learn the sense of the profession.

I claim in our politics there is no "party." Every member of our governing body is animated with one desire—to uphold and advance the best interests of our profession. It is a most conservative body, to which principle I subscribe, realising that the principle must be a progressive one, for without progress we will have little indeed to conserve. At present our reserves are becoming "smaller by degrees and beautifully less."

The first possession to conserve and preserve is our one portal system. Those who have gone before did valiant service in acquiring for us complete protection of our professional entry. Like every form of protection the absence of competition may lead us to a sense of inertia; it is up to our generation to maintain and advance the position gained for us. The cost of that portal is not yet paid and we have had recent evidence that the interests which were then combined have not ceased safeguarding the rights of its licensees; nor has the list of existing practitioners approached a point which can be described as vanishing. In this remark I do not wish to disparage a most useful and generally well conducted group of veterinary practitioners; they have both disabilities and privileges which are not ours.

In regard to the one portal may I say that the University of Liverpool never entertained the idea of licensing for practice. What she has done and is doing is with the desire to advance the dignity of our profession

and open her doors to the admission of students to the veterinary side of medicine.

Not only has the Royal College to guard the portal by examinations and provide the expenses, but our "free" profession has also had the advantage of the individual rights of its licensees being guarded and protected at very considerable cost to the College. Much has been done by recommendation of the Registration Committee; more might have been attempted had funds been available. I fear the members of our body do not sufficiently appreciate the difficulties of that Committee.

It is at times depressing to find evidences that fraternal feeling in those in close quarters is often sadly wanting, and many of the complaints require more evidence than is forthcoming. When such cases are remitted to the complainant for that purpose, they usually "drop out." The practice of the law is akin to ours, and a "lost" case leaves a bad impression, consequently great care is exercised in selecting cases for prosecution. At the present there is much which causes anxiety and requires careful handling.

Further, expensive work of the College to safeguard the rights of its licensees pertains to a careful watching of all Bills relating to animal life and products. It is more than ever apparent that direct Parliamentary representation is desirable, and should be effected at the earliest possible time.

Whilst the V.S. Act (Amendment) Bill falls short of much of its early expectations, it will give further rights and responsibilities to "E. P's." I do not regret the price, it is in our best interests that these practitioners are amenable to the disciplinary powers of the College; further it gives power to deal with an offending company as with an individual.

What then is our position? Is there danger to our possessions? In answer to the first—our position financially leaves much to be desired, we are compelled to liquidate the funds of the College on a falling market to meet absolutely necessary expenses. Such a system must come to an end, and it is estimated that, without greater income, at the present rate of expenditure our funds will have vanished in a period of ten years.

From whence came these funds? From the profits of examining candidates for our licence. This has now ceased to exist through the very serious decline in the numbers seeking our qualification, owing to various circumstances; primarily in the raising of the preliminary examination and extension of curriculum, and secondarily in the fear generated by the coming of mechanical traction that the horse was doomed, and with him veterinary surgeons. We know how fallacious is the latter; the vanishing horse has reduced that side of our work; but the law of adjustment has brought very rapidly and prominently forward the work of the veterinarian in all that pertains to milk production. Hence if we are not to cease to exist, we must have money from somewhere, and while we have enjoyed all the privileges of our licence without cost, I cannot understand any opposition to the Bill now before Parliament to provide funds necessary for our very existence.

So much for what may be called our "domestic" position. What is our position in comparison with holders of one of the licences to practice medicine? In answer, I think all are agreed that our licence is of equal merit to theirs, and as professional men we have an equal standard. We have individuals who, unfortunately, fall below—and so have they.

This brings me to a point of some moment. The medical schools have given notice that after the completion of this year they will require a higher standard for the preliminary examination. Hitherto most of the veterinary students have taken the same examination as students for licence in medical dentistry, etc. I refer to

the examination held by the Educational Institute of Scotland. Due notice of the proposal came before the Council, and after consideration it was decided, in view of the shortage of entrants, that it was undesirable to follow the lead of the General Medical Council, and it was arranged that the Scottish and other bodies would continue to examine our candidates on the present standard. However, it appeared that the change adopted by the General Medical Council was not so serious as at first anticipated; it was a raising of the pass marks together on certain results, allowing the examination to be taken in two parts. The matter was reconsidered, with the result that the Council accepted the recommendations of the Preliminary Examination Committee, and decided that after November, 1914, candidates for our diploma would be required to take an examination equal to that required by the General Medical Council. When this matter came up for confirmation it was referred back to the Committee. This is a question of policy.

Without wishing to add to the difficulties of the candidate, I certainly am of opinion that the veterinary surgeon should continue to be on equal educational footing with those who practice medicine.

Perhaps it will be fitting at this stage to ask for how long shall our portal be closed to women? A short time ago an enquiry was addressed to the College as to the eligibility of women for our diploma, with the resulting answer that the College had no power to admit women to its examinations. This prompted another enquiry from the same source, as to which body the College could direct him in order to acquire the right of women to those qualifications now enjoyed by men. A courteous reply was sent. Courtesy may not suffice, and definite action may become necessary, and it would be well for this meeting to consider carefully the point raised. So far as I am aware, the profession has not given an opinion as to the desirability of admitting women to our qualification. The noted trial in by-gone years was ended in a quibble as to location of the College.

Now as to progress. Notwithstanding the financial difficulties, the College is at present offering to vary and add to the diplomas which it grants. After long and repeated consideration it has decided that the conditions both in the qualifying period and in the examination for the Fellowship diploma should be varied, allowing a qualifying period of two instead of five years a wider range of subjects, encouraging specialised work and the subject for which the diploma is granted to be stated; the eligibility of candidates under the original conditions is for a period which should obviate any disappointment or hardship. In the opinion of the Council the change will add to the dignity of the diploma, and it allows a large field for special work.

It has also been decided to institute a new diploma in V.S.M., which entails a considerable increase in the period of study, that post-graduate diplomas are of importance goes without saying, and with their coming has arrived the time for specialism in our profession.

Power for this progress has to be sought in a new Charter, which has been before the Council. In our present condition it was a desideration that nothing of a contentious nature should be sought; the draft Charter simply seeks additional power for the alteration in the Fellowship and authority for new diploma; there is one further clause to allocate to the new member of Council receiving the lowest number of votes, the position, with its corresponding period of service, of any member who retires from the Council other than by the completion of the period of service to which he was elected. At present the position is allocated by ballot, and the member receiving the highest number of votes at the last election has this year to go again to the poll.

As a result of the findings of the recent Royal Commission on the Veterinary Services, the bye-laws of the College are being altered in order to allow the degree graduates in Science, Arts, and Medicine of any University in the United Kingdom, also licentiate or member of the Royal College of Surgeons and the Royal College of Physicians, a remission of the subjects of the first examination, excepting junior anatomy; the combined portions of anatomy to be taken in the second or B examination. By the vote of Council the remission is confined to those who have acquired the degree, etc., but I hope at no more distant date than twelve months, necessary under the bye-laws, that all those who pass the intermediate examination which includes the subjects may also be permitted the exemption.

As to the general policy of our profession, we cannot live alone, and every member should be associated with a Society of his fellows. The combination of Societies in the National is one which offers great opportunities. Politically, the profession is apathetic. Our last annual meeting of the Royal College was evidence that notwithstanding the very important matters which were proposed and being carried, there was no discussion and no voice raised, for or against. The time may arrive when candidates will be required to state their views on matters professionally political. With the exception of those for and against the Bill, no party cry has of recent years been raised.

Another item in general policy is the necessity of every member doing something to assist in making the coming International Congress a success. Veterinary science neither begins nor ends in this country, and I feel that the great majority of our members fail to appreciate the significance and honour of that body meeting in our country next year. At present the subscriptions to the necessary expenses are confined to a few, but there is still time for the many to come forward and help.

Thanks to the success of veterinary surgeons employed in National and local positions, in the dual capacity of safeguarding both human and animal health, an increasing necessity for such help is apparent, and the relationship between the M.O.H. and the veterinarian is distinctly improving.

In reference to the Schools, all I wish to say is that they require more money for the efficient teaching than it is possible to acquire from the fees paid by students, and that veterinary education has as great a claim on the Government of this country as any other system.

It is not for me to direct discussion; I have dealt with principles of policy, and upon those points I feel I am not alone in desiring guidance from the profession.

DISCUSSION.

The PRESIDENT, in opening the subject for discussion, said: We have listened to Mr. Sumner's address on the very important subject of the politics of the profession to which we belong. In my position to-night it is not at any rate for me to have very much to say on the matters brought before you. That they are of great importance, and that there may be probably more than one opinion on some of them, there can be very little doubt, but in my mind, judging from the inside view which we have been able to get as to the doings and intentions of our governing body, the question of the low financial state of the Royal College, and the question of the establishment of new degrees, stands at something in the relation of "cause and effect." It almost appears as if the Royal College not only had the view that it is to the advantage of the profession, speaking professionally of course, that new degrees should be established, but also they may prove a source of income, and so to some extent stop the very serious depletion of funds which is occurring, and which we have been informed to-night will, in the space of ten

years, unless it is checked, lead to a condition of bankruptcy. I did not notice in the address to which we have listened any reference to the question of an annual fee from any member of the profession. That is a question which has certainly been omitted. Whether we have to take it that the Council has dropped it or not, perhaps we shall hear later on. In my opinion it would not be a hardship to the profession if the members were asked to contribute yearly a fee to the funds of the College, and it is probable that that would be a means of establishing the financial stability of the Royal College. That is perhaps a subject on which an expression of opinion from members present would be advisable. The subject of the address is now open to discussion and I hope that it will be freely ventilated.

Mr. SUMNER here remarked that provision for a proposed annual fee of £1 1s. is still in the Bill to be brought before Parliament.

Mr. ABSON (Sheffield): I do not know how to open the discussion, because Mr. Sumner has covered the ground so completely, and I am so much in accord with all that he has said, that I cannot raise contentious matter. I might refer to this proposed new Fellowship examination. There is no question, but that the old Fellowship examination was obsolete, and it has become absolutely necessary to introduce an examination worthy of the name, and I do not think the Council could continue on the old lines. Then with regard to the Diploma in Veterinary State Medicine, that has been practically thrust upon us. We know that two Universities have been issuing such diplomas—Manchester and Liverpool—and others have threatened to do so. We cannot stand aside; we ought to be the pioneers in these matters. To allow that sort of thing might jeopardise the one-portal system. The President had referred to the question of an annual fee. Of course that is provided for in the Bill, and I think no one will object to contribute to it. The Essayist states that ten years will see the extinction of our funds. I think that is a very liberal allowance, and that seven years would be nearer the mark, and that would mean that the buildings and everything belonging to us in Red Lion Square would go. We are in a predicament, and there is no other means of raising funds than the proposed annual fee. We cannot raise the fees of the students for they are high enough already, and we must look to ourselves to raise the necessary funds to keep us going.

Mr. BROWN (Worksop) strongly objected to women being allowed to enter the profession, and suggested that any who wished to do so should marry veterinary surgeons and assist their husbands in their practices. He said there are two things we have to consider—(1) the Colleges are short of funds owing to lack of students; (2) The Royal College is short of funds owing to lack of examination fees received from students, but if the new Bill passes there will be adequate funds for the latter. If the standard of the preliminary examination is raised you will still further decrease the number of students, and if you wish to see a better quality of men entering the profession we shall also have to contribute towards the training of them by rendering financial assistance to the Colleges. Taking into consideration the inroads made into veterinary practice by motor traction, there is very little encouragement to students to enter the profession.

Mr. SUMNER then narrated his experience of women students and made some interesting remarks.

Mr. JOHNSON (Brighton) said: The Essayist has so completely covered all the important data in connection with the matter under discussion that I have nothing to add and no questions to ask. Before leaving to catch my train, I should like to say that the hour spent in this room hearing Mr. Sumner's remarks completely justifies the step which the members of the veterinary

profession in Sheffield and district have taken in forming this new Association. With regard to the doings of the College Council we have received some valuable information, and there are numerous interesting points upon which we can go away and reflect. What I should like to say about the depletion of the funds of the College is this—If we can promote unity, and if we can co-operate as we ought through our various societies, I am convinced myself that the members of the profession will rally and will only be too ready to contribute something, whether it be a guinea or less. I feel sure the members of the profession will not allow the Council to see its old traditions and institutions broken up through the want of assistance. I gather from the Essayist's remarks that he would like an expression of opinion as to the advisability of raising the standard of the preliminary examination. Whilst not desiring to put any strain upon parents or young people desirous of entering the profession, I am strongly in favour of the Council keeping the standard of our preliminary examination on a level with that of the medical profession. Without saying any unpleasant things about those worthy men who came into the profession under the 1881 Act, or those older members of the profession who are of the old-fashioned schools where there was only one examination, and so on, our desire should always be to give our *confrères* a "leg up," rather than a "push down," and I certainly think the only way to do it, is to keep alongside the sister profession with the preliminary examination by which our profession is entered. We are encouraged to believe that there will be very important work in connection with Public Health which veterinary surgeons will have to do. Incidentally this will probably have to be done with motors, owing to the wide area to be covered, instead of working in a confined area with horses. In order to do this work I do not think the standard of education should be lowered. It seems to me that we should support the Council in keeping the standard up. On the subject of our co-operation with the medical profession, and particularly with Medical Officers of Health, I think we should make it known by tactful means that we should like a little more appreciation than we get. I do not wish to go into details, but I would like us to get a little more consideration as regards our professional status. What I mean is this—I think the world would appreciate us more if, without being too blatant or anything of that sort, we could in some quiet and gentle way express our desire for further recognition.

Mr. T. C. FLETCHER said: I should like to thank Mr. Sumner for his very interesting paper, but I must say that I cannot agree with Mr. Brown in the slightest. I think the whole world is progressing in educational matters, and I think the veterinary profession should do the same. The school boy of to-day is far better educated than formerly, and if the school boy of to-day is to be a veterinary surgeon, he will both expect and be able to pass a higher preliminary examination. I quite agree with Mr. Sumner in his expression of opinion that as the Medical Council are raising the standard of education, the veterinary profession should do the same. I hope Mr. Sumner will go away from Sheffield confident in his own mind that we appreciate his kindness in giving his important paper. If it is any honour to him to know—this is the first topic introduced to the new North Midland Veterinary Association for discussion. I have great pleasure in proposing a very hearty vote of thanks to Mr. Sumner for his paper.

Mr. ABSON, in seconding the resolution, said the members were greatly indebted to Mr. Sumner for giving his very lucid paper. He has covered a lot of ground, and I think we were all thoroughly interested in the matter he has brought forward. We are most grateful to him for coming.

The resolution was carried with acclamation.

Mr. SUMNER, in reply, said: I have no apologies to make for coming. I appreciate the honour of the invitation which my friend Mr. Lloyd has given me. It has been a delight to me. I think you have rather missed the drift of the argument that I have tried to bring home, and that was not our present condition. At present our ordinary members are equal to the ordinary medical licensee, our standard is equal, and we can meet them in any place. Now the time has come, in my opinion, when they might have a little advantage. The standard of the examination for the entry to the medical profession is to be raised, and our equality will suffer. The medical profession will then be able to say that the standard of veterinary education is not equal to theirs, and that is a thing I do not wish the medical profession to be able to say. Consequently, I hope we shall be able to say in the future that we are absolutely on an equality with the medical licensees. I can only add that I have been glad to have been here.

After Mr. Sumner had left it was decided by the meeting that the discussion should continue.

Mr. SAMPSON said: I have been pleased to hear Mr. Sumner's remarks, and have greatly enjoyed hearing from a Member of the Council remarks on the policy of the profession. It is very seldom you find a Member of Council getting up at meetings of Societies and giving his views on the politics of the profession. Were it not for verbatim reports in *The Record* we should not know how the business of the Council is transacted, and when one has heard Mr. Sumner's account of what takes place in Council, one can appreciate the difficulties the Councilors have to meet. Whilst on this subject, I should like to speak with regard to veterinary jurisprudence. I think forensic medicine should be added to the curriculum of the College. I fail also to know how a new graduate is to become acquainted with the ethics of our profession under the present course of instruction. It would be well if young practitioners could get help from Members of Council so as to learn what they should, or should not, do in regard to professional conduct. With regard to the finances of our College, I should have liked to have asked Mr. Sumner, had he been present, what has the Council done to try and cut down expenses in connection with the examinations? Have they done all that a body of business men could in this matter? Surely when they knew that their expenses were exceeding their income they would endeavour to cut down the expenses of examinations by having all the students examined at one centre. I should like to know what are the cost of the examinations at different centres, and what would be saved if the examinations were conducted at one centre. There will be no question of finance assuming that the Bill becomes law, but what is the Council going to do with the amount of money received from the annual fee. I think the profession has a membership exceeding 3000, and before the Bill is passed it is only right that members of the profession should know what the Council intends to do with this amount of money. To me it seems a rather large amount every year to be thrown into our funds for our College to deal with. We only hope that if they get this money they will take steps to amend the law so as to deal with such cases as "Kennard—Canine Surgery," so that persons running such places cannot come along and take money out of the pockets of the men who have paid for their college education. With regard to equality with the medical profession, I am at one with Mr. Sumner that we are quite justified in raising our standard to that of the medical profession—lately every education authority has been raising its standard.

THE HON. SECRETARY (Mr. Lloyd) said: The first matter Mr. Sumner dealt with was the one-portal

system, with which, no doubt, we all agree, and then followed on with the new Fellowship diploma. I, and no doubt the profession generally, will agree that something wanted doing with the Fellowship diploma. A few years ago, before the number of students decreased, the amount saved per annum by the Council about equalled the amount received from the Fellowship examination fees, but since the number of students has been reduced the Fellowship examination fees have been swallowed in the general expenses. The matter of expense in connection with examinations mentioned by Mr. Sampson is a very important one, and I cannot say what are the expenses of taking the examiners round to all the different Colleges; I know it is an immense amount of money, and it has often been put to the Examination Committee, would it not be possible to considerably reduce these expenses by having the students examined at one centre? Students from all the Colleges would then be examined under equal conditions. It is true that at present there is not power to compel the Colleges to send their students to be examined at one centre, and the Council has so far never made any attempt to cut down their expenses by trying to get such power put into the new Bill. The only powers sought in the Bill are to deal with existing practitioners—a constantly decreasing number; limited liability companies—an insignificant number; and the extraction of £1 1s. out of the pockets of members of the profession.

Another matter which could have been inserted in the new Bill is power to deal with "Kennard—Canine Surgery," (appeal dismissed), "Marshall—Veterinary Surgeon Operator," (appeal abandoned), and such like violations of our present powers, but nothing at present is being attempted to increase our powers to deal with such cases. Although having been a Member of Council for nearly four years—I am, I may say, a Member for the last time, as I do not intend to seek re-election—I have so far been unable to find out in what way the Council intends to spend the 3400 guineas received from the annual fee provided in the Bill. Matters which have been mentioned, however, are the selling of the present College buildings, and the purchase, or building, of new offices in a front street. Another matter mentioned has been the re-organisation of the library and the renovation of the museum, but what advantages these are going to be to individual members of the profession I fail to see. A word about the new diploma in Veterinary State Medicine. As mentioned by Mr. Abson, this diploma has practically been forced upon the Council, owing to the action of various Universities in instituting such diplomas. The Council, however, had the opportunity of taking the initiative in 1899, when they were approached by the University of Aberdeen in regard to post-graduate education, but in spite of the efforts of the late Professor Owen Williams, who desired to bring this about, the Council refused to take action. The result was that the University of Aberdeen did not do anything, but later the Liverpool University instituted the diploma in Veterinary Hygiene, and the Manchester University instituted the diploma in Veterinary State Medicine, but neither desire to grant their diplomas except to graduates of the Royal College of Veterinary Surgeons. They, however, did want to receive the fees for educating veterinary surgeons in order to take such diplomas. Had the Council instituted such a diploma and allowed the Universities to do the teaching, the Council would have been able to conduct the examination and to receive the examination fees. In their present attempt to institute a new diploma in Veterinary State Medicine, I think the Council are still making a serious mistake, as they are insisting upon intending candidates taking a six months' course of instruction at an affiliated school in order to

bolster up the veterinary schools, thereby shutting out any candidate who is now holding a public health appointment, as such candidates would have to give up their present appointments in order to be able to attend a College. It is still, however, open for any University to institute a diploma in Veterinary State Medicine so long as they do not interfere with the one-portal system, and should such courses of instruction be made easier than that of the Royal College, it is almost certain that intending candidates will go for the University examinations and so cheat the Royal College of the examination fees, at the same time having a diploma which, in the eyes of the public, will be equal to that granted by the Royal College.

Regarding the appointment of Dr. Leighton as Medical Veterinary Inspector to the Local Government Board (Scotland), when the matter was first brought forward by the Association of Veterinary Officers of Health it was never intended that a medical man should receive the appointment, and had not Dr. Leighton been the Professor of Pathology and Meat Inspection at the Edinburgh Veterinary College, there is no doubt that he would not have received the appointment. It is consequently up to the veterinary colleges to see that only veterinary surgeons are appointed as Professors at such Colleges.

Mr. FLETCHER (Sheffield) said: I had not finished my remarks when previously speaking. Members of the Council ask for votes at a particular time of the year through some little paragraph in *The Record* or some other periodical, and then having got the appointment of Member of the Council, we never hear from them of the workings of the Council. I only wished to thank Mr. Sumner for his outspoken reference to this work. It is good for us to know the difficulties that attend the deliberations of the Council, and it is good for us to hear that they are doing something for us, and something to warrant us giving them our votes. I am very sorry to hear Mr. Lloyd is not seeking re-election.

Replying to a question from the President, the Hon. Secretary stated that the expenditure of the Council under the new Bill would be subject to the approval of the Privy Council. The President thought the Council were standing in their own light by not clearly indicating to the profession what they desire to do with the money.

Mr. ABSON (Sheffield) asked leave, as a Member of Council, to reply to Mr. Sampson's remarks.

So far as regards reducing the expenses of the examinations as they now exist, I do not think it is possible to reduce them. The only way of reducing the expenses is to have the examinations at one centre, and I have suggested that the examinations ought to be held at York as a convenient centre. The schools, however, will not send their students to one centre, and we have no power to compel them to do so.

Regarding the annual fee received under the new Bill when it becomes an Act, the Council will have no difficulty in spending the money. We cannot do anything at present for shortage of funds. There are hosts of ways in which the money can be spent to the advantage of members of the profession generally.

In reply to the Hon. Secretary regarding the diploma of Veterinary State Medicine—it is true we might have had this diploma some time ago, but we have maintained that the teaching of the veterinary surgeon of to-day is of such a character that he should be able to undertake any post, public or otherwise, which is offered to him. It is true that we might have instituted this course three or four years ago, but it is easy to be wise after the event. I am in favour of upholding the preliminary examination, and making it equal to the preliminary examination of the medical student.

The meeting then proceeded to discuss the ordinary business which had been postponed in order to take Mr. Sumner's paper.

The HON. SECRETARY reported that he had received promises of papers to be read in 1914 by Mr. Brown, of Worksop, and Mr. Noël Pillers, of Liverpool, and hoped to be favoured with promises from other gentlemen.

New Members.—Mr. J. A. HODGMAN, Barnsley, was nominated by Mr. Smith and Mr. Fletcher.

Mr. H. W. DAWES, JUN., Sheffield, by Mr. Laycock and Mr. Abson.

Mr. G. HOWE, Buxton, by the President and Mr. Sampson.

Mr. W. C. WILKINSON, of Mansfield, was then elected a member of the Association.

ELECTION OF OFFICERS.

On the proposition of Mr. Brown (Worksop), seconded by Mr. Sampson (Sheffield), the officers for the year 1913 were re-elected, it being felt by the members present that it was undesirable, seeing that the officers had only held office for six months, to make any change.

SPECIMENS.

Mr. G. GREEN (Rotherham) brought forward a Cyclopean monstrosity, namely, the head of a hackney foal. The mare had carried the foal, which was born dead, practically the full period, but it was known to be alive the day before its birth, as the fetal movements on that day were noticed to be very vigorous.



FRONT VIEW.—A small piece of paper has been placed on the eye in order to bring it out more prominently.—J. S. L.

Parturition was easy and uneventful, except that the mare retained the membranes for some time. The body of the foal was normal in every respect. The head was as now presented to you after preservation. The upper lip and jaw had been arrested in development leaving nearly two inches of the tip of the tongue and the bottom jaw exposed; the termination of the upper lip, however, was adorned with "feelers." In the centre of the forehead was a single eye provided with two eyelids and eyelashes, one on either side of its upper border. The eyelids on the lower border were devoid of

eyelashes although rudimentary eyelashes and "feelers" appeared lower down on either side of the face. Mr. Green also stated that unfortunately he was not able to make a dissection of the optic nerves, otherwise it would have been very interesting to have noted their arrangements. The owner on being asked if he knew any reason for the monstrosity had said that he thought the mare must have been frightened by a motor car.

ULCERATION OF HEAD OF FEMUR AND ACETABULUM.

Mr. S. E. SAMPSON (Sheffield) said: The subject was a Shire filly foal, born April 12th, 1913. On April 22nd I attended the foal for pervious urachus, which was treated in the ordinary way with disinfectants and sutures. On April 29th, the foal was reported lame on the near hind leg, and I visited next day and suspected joint evil. I gave nuclein hypodermically every third day, along with a liniment over the joint. On June 1st I noticed a purulent discharge from vulva. The lameness had by this time become very acute, the limb being nearly always "carried." At other times, when the vulval discharge almost ceased, there was a good deal of pain and no movement of the limb. Various agents were tried both locally and internally, but with no improvement, the foal dying on August 12th from septic pneumonia. The post-mortem examination revealed a large abscess outside the sacro sciatic ligament, containing about a quart of semi-purulent matter. From the specimen exhibited it will be seen that nearly all the



cartilage from both the head of the femur and the acetabulum has become completely eroded.

Mr. SAMPSON concluded his remarks by asking, "What is the nature of the complaint? Is it injury of the round ligament, or is it a case of joint evil?" He also drew the attention of members present to the amount of erosion that had taken place in a given time—about 12 to 13 weeks.

The PRESIDENT remarked that Mr. Sampson's exhibit and his statement of the history of the case were of particular interest to him inasmuch as he had seen a very similar case this summer. Unfortunately he did not see the subject—a cart filly foal—during life, and obtained a meagre history only from the owner. Briefly it was about a fortnight before death the foal became lame on the near hind leg; this lameness was at the time

attributed to an injury, which it was supposed might have been caused by the overturning of a tripod for raising timber, through the dam rubbing herself against it. Subsequently a purulent discharge from the vagina was observed. The foal eventually died from septic pneumonia. A post-mortem revealed the presence of about three gallons of serous fluid in the abdominal cavity, due to peritonitis, and an abscess in the pelvic cavity containing rather more than half a pint of thick yellow pus. The latter was situated on the left side of the pelvic floor. The left half of the pelvis was removed and the bones boiled. That portion of the pelvis immediately above the acetabulum exhibited a heart shaped area, measuring $1\frac{1}{2}$ inches in each diameter, where the dense bone tissue was completely eroded. A portion of the exposed cancellated tissue about the size of a hazel nut had become segregated and could be easily moved from side to side, but could not be lifted out while the specimen was fresh.

This case corresponds very closely with that brought before us by Mr. Sampson, except that in his case the erosion of bone took place in the cavity of the acetabulum instead of immediately above it. In his (the President's) opinion both cases arose from the entrance of the pyogenic micrococci per umbilicus, constituting an interesting and somewhat unusual variation of the well known navel or joint evil.

On the proposition of Mr. Fletcher (Sheffield), seconded by Mr. Collinson (Anston), it was resolved that the specimen exhibited by Mr. Green be photographed, and that copies of the photograph be sent to the veterinary press.

On the proposition of the President, seconded by Mr. Brown (Worksop), a hearty vote of thanks was given to the gentlemen who had brought forward specimens.

The Hon. Secretary then proposed, and Mr. Fletcher seconded, a hearty vote of thanks to the President for conducting the meeting.

REPORT UPON THE PUBLIC HEALTH IN THE CITY OF DUBLIN, FOR THE YEAR 1912.—By SIR C. A. CAMERON.

In this report the Veterinary Surgeon does not make a separate report, but his name follows that of the Assistant Medical Officer of Health in the list of officials, and his work appears in the sections on the Dairies and Cowsheds Order, and on the Inspection of Meat Food, etc. Sir Charles Cameron recognised and generously acknowledged years ago the part which the veterinarian should take in Public Health work.

DAIRIES, COWSHEDS, AND MILKSHOPS (IRELAND) ORDER 1908. RETURNS FOR THE YEAR 1912.

Dairies and milkshops registered during the year.

North Side.	City	44
	Vendors residing outside city	3
South Side.	City	57
"	Vendors residing outside city	8
Total		112

(These were not registered last year).

Dairy Yards registered.

North Side, 1. South Side, 6.
(These were not registered last year).

Dairies and Milkshops re-registered during the year.

North Side.	City	246
"	Dairy yards	99
"	Vendors residing outside city	30

South Side.	Dairies and milkshops	250
"	Dairy yards	101
"	Vendors residing outside city	72

Total registrations 798

Number of dairies, milkshops and vendors for which no application for re-registration for 1912 was received, having ceased to vend milk :—

North Side	15
South Side	19
Vendors residing outside city	13
Dairy yard inspections	6,851
Dairy and milkshop inspections	15,485
Notices served	506
Notices verbal	116

Number of cattle in dairy yards in City of Dublin on Dec. 31st, 1912 :—5,371.

Udder Examination.

Yards inspected	27
Cattle in Yards	811
Suspects	7
Samples taken	5
Cases of Abscess, small	24
" large	3
Mastitis	9
Indurated quarter	5
Ulcerated teats	11

The outbreak of foot-and-mouth disease occupied the Veterinary Inspector's time so fully that he was unable to give as much attention to the udders of the dairy cows as he usually gives them. It will be seen from above figures that there are diseased conditions of the udder other than tuberculosis. Tuberculosis of the udder is by no means the only diseased condition that demands interdiction of the milk, for instance, a common pathological condition of the cow's udder is inflammation, technically called mastitis. Milk from such an udder, if used for human consumption, would be highly dangerous. Prof. Holst, of Christiana, found that milk from an inflamed mammary gland caused acute catarrh of the stomach and bowels in four adults and four children who resided in three different houses. They had all partaken of milk, which came from the same dairyman, on whose premises was a cow affected with mastitis, and the owner admitted mixing the milk from this cow with the milk of other cows. The identical organisms causing the mastitis were isolated in each case, proving the illness of humans originated in the bovine and was transmitted through the medium of the milk.

[This statement does not satisfy Koch's postulates, but it carries the matter so far that the necessity for further careful observation by both medical and veterinary practitioners is clearly indicated].

INSPECTION OF MEAT, FOOD, ETC.

The inspection of food is conducted by the able veterinary surgeon of the Corporation, Mr. Andrew Watson, by four meat inspectors and myself.

Return of unsound food, etc., confiscated at the Corporation Abattoir during the year 1912.

163½ Carcases	Beef	lb. 105,764
211½ "	Mutton	15,933
31½ "	Veal	8,458
12 "	Pork	1,008
31½ "	Lamb	807
Portions	Beef	292
"	Mutton	27½
Heads, Plucks, Viscera, etc.		4,553
		136,842½

DISEASES OF ANIMALS ACTS 1894 to 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders† (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered.*
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
GR. BRITAIN.													
Week ended Nov. 15	15		15		1	23	1	2	31	48	4	55	632
Corresponding week in	1912	16		16			3	4	24	47	7	39	780
	1911	30		34			3	15			8	45	549
	1910		32	36			4	5			11	25	229
Total for 46 weeks, 1913	490		539		1	23	133	322	2152	4258	158	2215	28646
Corresponding period in	1912	675		757	82	639	161	296	2553	5396	224	2623	35889
	1911	791		972	18	467	188	458			339	2191	26299
	1910		1290	1539	2	15	327	945			385	1317	12251

† Counties affected, animals attacked: Kent 2.

Board of Agriculture and Fisheries, Nov. 18, 1913.

IRELAND. Week ended Nov. 15				...	...	...	...	...	Outbreaks	12	2	1
Corresponding Week in	1912	...	...	...	...	...	...	...	...	9	1	21
	1911	...	1	1	...	...	...	...	...	7	9	80
	1910	...	...	...	...	...	...	...	...	4	1	17
Total for 46 weeks, 1913	...	...	...	...	...	...	1	1	111	448	128	822
Corresponding period in	1912	...	3	3	68	382	...	...	59	313	201	1631
	1911	...	8	16	...	...	2	3	53	294	131	2189
	1910	...	7	11	...	...	1	2	63	395	84	1920

* These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Nov. 17, 1913

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

R.S.P.C.A. Prosecution—Dismissed.

At Folkestone on Tuesday, 11th inst., Robt. Chittenden was summoned for working a horse in an unfit state, and Fredk. Brown (Bridges and Co.) was summoned for causing the horse to be so worked. Defendants pleaded not guilty.

Mr. G. W. Haines prosecuted on behalf of the R.S.P.C.A., and Mr. Rutley Mowll represented both defendants.

Inspector Bennett, of the R.S.P.C.A., said that on the 28th October he was in Foord Road, where he saw the defendant Chittenden driving at a trot a brown gelding attached to a four-wheeled van containing parcels. Witness noticed that the animal was going very lame on the off fore limb. He stopped defendant, and pointed out the lameness. He replied, "It's all right at a walk." Witness examined the animal and considered that the lameness was due to side-bone and a badly contracted foot. The animal flinched distinctly every time he touched it. The foot was hot. The animal, in witness's opinion, was totally unfit for work. Defendant said, "The horse has been like it for about a week. It was lame on the other leg before this, and that is why it is shod with pads. I know it has a side-bone. Mr. Brown knows it is shod with pads, because of its lameness. He is responsible for the horses." On the 3rd November, witness saw Mr. Brown, who said: "I haven't any explanation to make. We know it's lame, and have had it shod with pads to ease the concussion. I know what is the matter with it; it has got a corn. I haven't seen it since I've been back, but I didn't consider it unfit for work."

Cross-examined by Mr. Mowll: Witness had not previously noticed the horse to be lame. When the horse was taken out of the cart it became restive and kicked about. Witness had not known a lame horse to kick about before.

Mr. Mowll: This was the first.

P.S. Burniston, who was in company with Inspector Bennett, said the horse was going very lame. Witness noticed the horse before Inspector Bennett spoke.

P.C. Pritchard, who was in company of Inspector Bennett and Sergt. Burniston, said the horse was lame, and was in pain.

Mr. Gillard, veterinary surgeon, said the lameness was not very pronounced, but when trotted the horse went very lame indeed on the off fore leg. Witness found side-bone on the outside of the off-fore leg, and enlargement round the pastern coronet joint. In certain horses side-bone caused lameness. The foot was contracted, and did not expand on pressure. This condition had existed for some considerable time. All the circumstances, taken together, would predispose the horse to a bruised foot. The following day witness saw the horse again. The shoe was removed and the india-rubber pads taken off. On the outside of the foot was a bruise. The sole was in a bruised condition. Some horses with a very little bruise might go very lame. The horse, without the shoe, still walked lame. When witness saw the horse it was undoubtedly suffering pain. It had no doubt for a long time had a shuffling action of the off-fore leg.

Cross-examined: The horse had been lame for some time. The bony deposit might or might not cause pain. The bony deposit interfered with the free action of the

foot. Witness thought that the existence of the bony deposit in this case gave rise to pain. The horse's foot was considerably contracted, and it was quite possible for contraction to cause pain. Witness had no hesitation in saying that, apart from the corn, the condition of the horse would render it unfit for work on the road. The corn appeared to have been in existence about a fortnight. The horse, when witness first saw it, jumped and pranced about, but the fact that the horse put its fore feet on the ground and kicked its hind legs in the air was not inconsistent with the fact of pain in the off-fore foot.

THE DEFENCE.

Mr. Mowll, in addressing the Bench, said the horse had been going about the town for 4½ years. He submitted that the lameness that was distinguishable must have been due to a corn. The horse had not been neglected, for on the 27th September some trouble was discovered on the near fore-leg, and the horse was put "in leather." Later it was fitted with rubber pads, which assisted to take off the jar as the horse's foot came to the ground. He thought that to have prosecuted the firm without any warning might be a good advertisement for the Society, but he suggested that it was scarcely fair to the defendants.

Mr. George Ibbotson, a registered shoeing smith, of Bradstone Road, said he had gained a number of prizes for shoeing in competitions open to the United Kingdom, and had also been granted the freedom of the City of London. He did the shoeing of Messrs. Bridges and Co.'s horses. On the 27th September he was shoeing this horse. He found that there had been a corn on the near fore-foot for some time. He put on leather between the hoof and the iron shoe, the object of this being to lessen the concussion. There was no reason why the horse should not have been used. On October 5th witness put rubber pads on the horse's feet. There was at that time no sign of a corn on the off-fore foot.

Cross-examined by Mr. Haines: Witness had seen the horse at work since he put on the rubbers, and it was then going perfectly sound. The corn that had developed in the off-fore foot was a new corn.

Mr. Thos. Clyde, veterinary surgeon, of Dover, said he agreed that the horse had an awkward gait. There was a sidebone in the off-fore leg, but it caused no pain. There was a very small amount of contraction. There was also a corn. Witness was prepared to take the responsibility of having the horse worked at once on the roads.

Cross-examined by Mr. Haines: The horse was a little lame when witness examined it, but it was as sound now as it had ever been during the three years witness had known it. It had an awkward gait. Eighty per cent. of certain classes of horses used for commercial purposes had this sidebone. There was no heat in the foot when witness saw it on the 29th October.

Mr. T. C. Toope, veterinary surgeon, of Dover, said that when he examined the horse on the 29th October there was a little lameness on the off-fore leg, noticeable only to the skilled eye. The horse suffered no pain from the sidebone. He found that there had been a bruise to the sensitive sole, and the lameness sprang from that. Before he left the premises the horse went, to all intents and purposes, quite soundly.

Cross-examined: The horse was suffering some pain—discomfort, like a lady wearing a tight shoe.

Mr. Fredk. Brown said that he had carried on business at Messrs. Bridges & Co.—of which he was sole proprietor—for 34 years. Defendant Chittenden had been with witness for 20 years. He had been a fairly large owner of horses during 34 years. This horse had from the first had rather an awkward gait. He had seen the animal working, and it seemed to be going all right; otherwise

it would not have been at work. He saw the horse at work after the rubber had been put on, and it was perfectly fit and sound. There was nothing to detect with the exception of the awkward gait. He saw the horse on the Tuesday in question, and it was then all right.

Cross-examined: On the day in question the horse started out at 7.30 and returned from 9.30 to 10. It was then quite sound. He knew that the horse had been stopped. The very fact of the crowd of people who appeared to see the show was sufficient for that. It was a good advertisement for the Society.

The case was dismissed. The costs were remitted to the Society.

Cruelty Case at Cheriton.

At Elham County Bench, held at Seabrook, Fredk. Tong, of Faversham, was summoned for cruelty to a horse by working it in an unfit state.—Mr. H. Myers defended.

P.C. Enfield said on October 7th he saw a bay mare attached to a four-wheeled van in Cheriton. It was trotting, and witness noticed it was very lame. He whistled to defendant to stop, but was apparently not heard. Witness subsequently saw the animal in High Street, examined it, and found it in pain and lame on the near fore foot. Witness told defendant to take the horse out, which was done.

P.C. Kenward said he saw the animal at Miss Nicholls' stables at Cheriton. It had ringbone and went lame when walking.

Sydney Bennett, Inspector of the R.S.P.C.A., stated that the horse went lame when walked, and very lame indeed when trotted. There was ringbone in the four pasterns, the near fore leg being particularly bad. There was also a sandcrack. Defendant admitted that he knew the horse had ringbone, and that it went lame when trotting, but said he never trotted it.

In reply to Mr. Myers, witness said he had not seen the van, but would say it was cruelty if the horse was driven in a van. Witness did not tell defendant that he could walk the animal home to Faversham.

Mr. F. C. Gillard, veterinary surgeon, stated that the horse walked perfectly lame, and in trotting was worse. It was an aged mare in poor condition. There was ringbone in all four pasterns in various degrees, the worse being that in the near fore leg, while there was a sandcrack on the near fore foot. There was no bleeding from the sandcrack. The mare was intensely lame, and quite unfit for any kind of work.

In reply to Mr. Myers, witness said it was cruelty to the animal even if it was only put to a walking pace, though an inexperienced man might then not notice any lameness.

Defendant went into the box, and said he was a fruiterer, of Dargate, near Faversham. He had no great experience of horses. He had no warranty with the one in question, but when he bought it for £12 he knew it had ringbone. He had never noticed any lameness, but he always walked the animal, though it was trotting when the constable saw it. He had a contract with the Council of Faversham, and the mare was working for that Corporation at the present time.

Herbert Foreman, in the employ of the defendant, said the horse had shown no signs of lameness during the four years he had known it.

Mr. H. B. Eve, veterinary surgeon, said defendant brought the horse to him on October 7th. The mare was in a fair condition, but to him, as an expert, she seemed slightly lame on the road. The ringbone had been present about five years. The horse had flat feet, and he assumed there were corns. Witness attributed the lameness primarily to what was known as a "false

quarter," which had been stated to be a sandcrack. The ringbone, and, possibly, corns, were merely contributory.

Mr. Myers said he acknowledged that the R.S.P.C.A. was doing a grand work, but one could not help thinking that some of the officials were not beyond criticism.

The Chairman said the Bench were of the opinion that the case was one of negligence, but taking into consideration that defendant took the horse out of the van when his attention was drawn to its lameness, they had decided that he should be merely ordered to pay the costs (£1 15s. 6d.)—*The Folkestone and Cheriton Herald*.

"Overstocking" Appeal—Justices to Convict.

In the High Court of Justice, King's Bench Division, on Wednesday, 19th inst., before Mr. Justice Darling, Mr. Justice Rowlatt, and Mr. Justice Atkin. *Waters v. Braithwaite*—a case stated by Banbury Justices.

Mr. Stewart Bevan appeared for the appellant; the respondent was not represented.

An information was preferred against the respondent under Section 1 of the Protection of Animals Act, 1911, charging that he unlawfully did "cause to be cruelly ill-treated" a certain cow by allowing her to be overstocked. The respondent, Thomas Braithwaite, was a farmer and breeder, and on June 12th, 1913, he caused the cow and her calf, which was muzzled, to be walked from his farm to Banbury market, a distance of five and a half miles. The cow was a heavy milker, and was in full milk. On her arrival at the market at 11 a.m. her udder was found to be very much distended. The teats were also distended, and they were hard and hot and felt like the skin of a drum. When her legs came into contact with the distended udder, milk was forced out, and there were inflamed patches on the udder. Her back was arched, she had great difficulty in walking, and had to be constantly struck to keep her moving. She was overstocked with milk. The cow had not been milked for 19 hours, and the expert evidence was that cows in full milk should be milked every 12 hours, and that overstocking caused pain and was harmful. For the respondent it was contended before the justices that it was a well-known custom of farmers throughout the country to keep cows unmilked for a like period before offering them for sale, and that it caused no substantial pain, and that interference with the custom would be detrimental to farmers.

The justices found that the udder was overstocked and that the cow suffered pain, but that as it was an old-established custom in the district to expose cows for sale in this condition, they dismissed the summons.

By Section 1 (1) of the Protection of Animals Act, 1911:—"If any person (a) shall cruelly . . . ill-treat . . . any animal . . . or, being the owner, shall by . . . unreasonably doing or omitting to do any act . . . cause any unnecessary suffering," he shall be guilty of an offence.

Mr. Bevan said that in *Ford v. Wiley* (23 Q.B.D. 203) a case of dishorning cattle, where a similar defence was set up, and in addition the magistrates found honest belief that the operation was for the benefit of the animals, the respondent was convicted.

Mr. Justice Darling: Has the case of the docking of horses arisen?

Mr. Bevan said that it had come before the High Court, but that magistrates showed a tendency to convict in such cases. He drew attention to *Lewis v. Fermor* (18 Q.B.D., 532), in which it was held that the operation of spaying a sow, being customary, and performed for the purpose of benefiting, the owner was not

guilty of cruelly ill-treating, abusing, or torturing it within the Prevention of Cruelty to Animals Act, 1849. In the present case the only result of this treatment might be to put a few pounds into the owner's pocket.

JUDGMENT.

Mr. Justice Darling said that it was found that this treatment of cows was customary, the object being that the udder should be very much distended, so that possible purchasers might see that the cows were heavy milkers. It was not denied that this caused great pain; no one alleged that it produced any benefit to the cow, but, on the contrary, it was stated to do her harm. The only benefit there was might be that of the owner. It was said that the respondent caused the animal unnecessary pain. The case proved that the pain was unnecessary as far as the cow was concerned, and the respondent did cause unnecessary suffering by omitting to have her milked, or preventing her from being milked by muzzling the calf. If the custom of doing this did exist, it was time that it ceased, and people must find some other means of judging whether a cow was a good milker or not. That class of case had been considered in *Lewis v. Fermor* (*supra*). The headnote was: "A person who, with reasonable care and skill, performs on an animal a painful operation, which is customary, and is performed *bona fide* for the purpose of benefiting the owner by increasing the value of the animal, is not guilty of the offence of cruelly ill-treating, abusing, or torturing the animal within the meaning of 12 and 13 Vict., c. 92, section 2, even though the operation is in fact unnecessary and useless." Some parts of Mr. Justice Wills's judgment did not seem to go that length; he said at page 536:—"In my opinion the proper view is that if the person who performs the operation entertains an honest belief that what is done will benefit the animal, he is not liable to be convicted. The belief may sometimes be erroneous, but we must be careful that we do not try to teach new, though perhaps improved, views on matters within the area of fair scientific discussion by means of the criminal law." But even if the case decided what the headnote said it did, it had been considered in the later case of *Ford v. Wiley* (*supra*). Mr. Justice Hawkins said at page 225:—

"If the law were that any man, or any body of men, could in his or their own interests, or for his or their pecuniary benefit, cause torture or suffering to animals without legitimate reason, and could, when charged with cruelty, excuse himself or themselves upon the ground that he or they honestly believed the law justified them, though in fact it did not, it is difficult to see the limits to which such a principle might be pushed, and the creatures it is man's duty to protect from abuse, would oftentimes be suffering victims of gross ignorance and cupidity."

Lord Coleridge at page 216 said:—"Upon the decision in *Lewis v. Fermor* (*supra*) we are not called upon to observe. It is upon a different operation, and is open to different considerations. But if my brother Hawkins is right in the view which he has taken of the reasoning in that case, I desire to say that I concur in the observations he has made upon it, and I respectfully dissent from it." They were not bound, therefore, to follow *Lewis v. Fermor* (*supra*) if it went as far as the headnote stated. There was ample authority in *Ford v. Wiley* (*supra*), and in the statute itself to enable them to say that where unnecessary suffering is caused by some act of an owner it could not be justified on the ground of old custom and of benefit to commercial persons. The case must be remitted to the justices with a direction to convict.

Mr. Justice Rowlatt gave judgment to the same effect, and Mr. Justice Atkin concurred.

RUPTURE OF THE UTERUS AFTER THE USE OF PITUITARY EXTRACT.

Dr. Germ Espent records (*Münchener Medizinische Woch.*) this mishap in a human patient. The pituitary extract known as "Pituglandol" was given subcutaneously on account of weakness in the labour pains, the dose given being 1·1 c.c.

The labour pains did not strengthen; and an hour-and-a-half later, as parturition had not advanced the same dose was repeated. Five minutes later violent labour pains set in, and caused a rupture of the uterus.—*Münchener Tier. Woch.*

[I am not aware that this accident has followed the use of any pituitary extract in veterinary practice. That it has occurred in the human subject is a fact worthy of remembrance—for the drug has yet been comparatively so little used upon animals that no one is entitled to call it free from danger.—*Transl.*]

W. R. C.

New Process of Producing Salt.

On the invitation of the International Salt Co., Ltd., 158, Bishopsgate, London, E.C., a representative of the *Meat Trades' Journal* paid a special visit to Belfast and the Carrickfergus works of the company on Saturday last to witness a demonstration of the "Tee" salt process.

Since mankind turned from a wandering to a settled life the obtaining of salt has been the most important of industries. In recent times inland African negro tribes have been known to prize salt above gold. Mungo Park related that some negroes had a way of referring to an extremely wealthy man as one who "seasons all his food with salt," the most extravagant form of luxury they could conceive. The rarity and dearth of salt in ancient times were due to difficulties of manufacture. With the progress of science and civilisation, the manufacture of salt has grown in importance. At Hayling Island, near Portsmouth, and at a later period at Salterns, on the western shore of Langston Harbour the manufacture of salt from sea water was carried on long before the Conquest; but the brine pits of Cheshire, Worcester, and Durham are worked so well and economically that sea salt making has long been an unprofitable occupation in this country. In the early seventies Dr. Mond embarked his little capital in acquiring the English rights in the Belgian Solvay ammonia soda process. He was joined by his friend, Mr. J. T. Brunner, and the two partners erected their works over the Cheshire salt deposits. After a trying and anxious time during the first year, when it is said everything that could explode exploded, and everything that could break broke, the process was improved, and success followed. There came later the electrical method of splitting common salt immediately into sodium and chlorine, adopted by Hargreaves and Bird, at Middlewich, and which has proved a commercial success.

Although the old method of evaporating the brine is the simplest process, it is by far the most expensive method of production; consequently an invention that successfully takes the rock salt direct from the mine, eliminates all the impurities, and delivers into the warehouse an anhydrous salt ready for immediate sale at a fraction of the cost of the ordinary process—performing all this in an hour and a half, as against two to three weeks for the finer grades by the brine process—is an invention that may fitly be described as "revolutionary."

The process invented by Mr. Harry Tee, and perfected by the International Salt Co., Ltd., is another example of the effect of modern science when applied to ancient methods.

The "Tee" process refines by fire. Rock salt fuses at a temperature of about 1750° Fahr. Its impurities have a far higher fusion point. This difference in melting temperatures renders it therefore theoretically possible to separate pure salt from the clay, iron, etc., with which it is associated. Many attempts have been made in this direction, but without success. From experiments made in the laboratory, it occurred to the inventor that agitation might have a beneficial effect by releasing the impurities held in suspension in the molten salt. This was effected by blowing air through the molten salt. A great improvement in the colour was at once noticed, but there was still an insufficient separation of the heavier impurities. After further experiment the salt was maintained in a molten but quiescent condition after "blowing" with a view to permitting the foreign matter to settle out by virtue of its greater density. It was then found, when the solidified mass was turned out of its crucible, that the whole of the earthy impurities had been deposited at the bottom of the vessel in a distinct stratum, the separation showing a clean cut line, the mass above it consisting of pure white salt of the highest quality.

It remained to perfect the plant for dealing with large quantities, and to procure a greatly increased yield of salt per ton of coal. Both these desiderata have been successfully overcome, and after about two years of costly experimental work the process has been perfected, and is being operated at the works upon an industrial scale.

Melted in large gas or oil fired furnaces, the liquefied salt, after passing through a series of settling chambers, emerges into large cauldrons, where, by a simple mechanical process, it is rapidly crystallised, and delivered to the screens in a warm state, any grade and quality of absolutely pure, dry salt being produced at will in a few minutes. This new salt has been aptly registered under the name of "Alsalt," and the Company make special points of the sterilisation and purity of the salt, and of its containing no added ingredients whatever. The saving in fuel may be characterised as amazing. Whereas by the old method a ton of coal produced about two tons of salt, the new "Tee" process, with the same amount of fuel, produces about twelve tons of finished purified salt. The situation on the shores of Belfast Lough is most advantageous and accessible. The reserve of rock salt is unlimited.—*Meat Trades' Journal*.

The Treatment of Horses in the Recent Army Manœuvres.

We wish to call the attention of the authorities at the War Office to the condition of the horses which came through the recent army manœuvres. Some of these horses were seen by the Editor of *The Animals' Guardian* in the Horse Market at Brussels and on the wharves at Antwerp. *The Daily Telegraph* in October contained numerous advertisements of sales of horses fresh from the manœuvres, which might have been retained in the service, or certainly disposed of in the country. They bore most evident signs of very hard usage, and had been bought by dealers for the continental market. These were mainly horses supplied by contractors, but from information which has reached us from Woolwich, the condition of the army horses proper, which had been returned there at the end of the operations, was such as to arouse indignation and astonishment among many army men. They have been

described to us as "wrecks" and "clothes-horses." The British Army costs the British public many millions of money in the course of the year. Who are the transport officers responsible for the proper feeding and care of these animals on the line of march and in the operations which were carried on during the early autumn? We hear a great deal about the increasing efficiency of the army. Well, we accept it; but what about the horses? Who is responsible for them? We should not be at all surprised if some pretty significant questions were asked when Parliament reassembles concerning this serious state of affairs.—*The Animals' Guardian*.

Ireland and Cattle Disease.

The Irish Department of Agriculture has been informed by the Board of Agriculture and Fisheries that 51 Irish cattle, which had recently been brought on to this farm of Mr. S. H. Weston, at Westham, East Sussex, on which there has been an outbreak of foot-and-mouth disease, have been examined, and that no evidence of the disease has been found among them.

The Milk Question again.

"You are charged with selling adulterated milk," said the magistrate.

"So I understand, your worship. I plead not guilty."

"But the testimony shows that your milk is 25 per cent. water."

"Then it must be high-grade milk. If your worship will look up the word milk in your dictionary you will find that it consists of from 80 to 90 per cent. of water. I'd ought to have sold it as cream."

Royal Veterinary College Annual Dinner.

The annual dinner took place at "The Trocadero," on Friday evening, 14th inst., Principal Sir John McFadyen in the chair, supported by Professors Macqueen, Shave, and Wooldridge, with visitors: Messrs. H. A. MacCormack (Central V. Society), and G. J. Harvey, late G.V.S., Cyprus. The company numbered just under 90. After the dinner—which was judiciously selected and, as usual there, well done—Sir John gave "The King," which was loyally honoured, and with "permission to smoke" the musical programme was commenced. Songs were given by Messrs. R. M. Bamford, T. H. Lockley Turner, A. G. Lalor, and T. J. Dixon, backed by Messrs. Harry Hall and George Blackmore. Musically, Mr. F. H. Stainton's violin solos were an easy first, and were vigorously encored, as, indeed, were the other contributions. Mr. R. H. Lucas proposed "The College," and took the opportunity of airing some of the students' grievances—none of them serious, some of them fancied rather than real. Professor Wooldridge, in replying, referred to one of them—a lack of enthusiasm on the athletic side—and pointed out that while some of the students might feel that they could ill spare the time, athletics, judiciously used, are a healthy and necessary tonic, and often sent the man back to his studies with a clearer brain and a freshened grip of his work. Prof. Shave proposed "The Chairman" in the only suitable terms, and Sir John replied briefly. "The Visitors" was given by Mr. W. J. O'Connell. Mr. G. J. Harvey, in reply, complimented the students on the style and tone of that night's dinner as compared with his student days; and Mr. MacCormack, who also replied, recalled the time when their annual dinner was held at "The Horseshoe." He also advised the students, as soon as they obtained their diploma, to join the National Society, preferably through a local Society—the Central he would say—and pointed out the undeniable advantage of the member-

ship, both to themselves and to the profession as a whole.

Prof. Macqueen gave a well-deserved toast not on the programme—the Dinner Committee, with the Hon. Sec., Mr. E. E. Jelbart. He, too, complimented the students on the whole tone of the function and compared it with earlier experiences, when "the atmosphere had been too thick for him, and he had given up attending them for some years." The evening was a success, and the appearance of the contingent present gave promise of maintaining the prestige of our oldest school for another generation of veterinary surgeons.

Dinner to Mr. Robertson.

The esteem in which Mr. William Robertson, M.R.C.V.S., is held by citizens and farmers alike was evidenced on Saturday evening, October 25th, when he was entertained at a complimentary dinner at Steinmann's Hotel, Grahamstown, by a gathering which Dr. Drury described as consisting of "farmers, doctors, and oddments."

Mr. T. T. Hoole presided. The company, numbering over 60, included the Mayor, Dr. Griffiths, Dr. R. T. Harrison, Prof. Williams, Dr. Drury, Dr. Duerden, Prof. Bowles, Colonel Greener, Dr. Lea, Canon Wyche, and Prof. Schwarz.

After the loyal toasts,

Dr. Drury, in the unavoidable absence of Dr. Saunders, proposed the health of the guest of the evening. Dr. Drury said Mr. Robertson ranked very high in the class of men who worked. If one tried to sum up all one knew of Mr. Robertson, he would say he was a hog for work. He came from a place north of the Tweed where the people went in for low living and high thinking. (Laughter.) Ever since he came to Grahamstown he had been characterised by his hard working. They were sorry when he left for the north, but he (Dr. Drury) did not know of the return of any prodigal son which had been so welcome. (Hear, hear, and laughter.) He was a colleague and a friend; a man of wide reading. No one had ever appealed to him in vain for help for his dog or any other animal. Speaking as a medical man, he was jolly glad he had returned to Grahamstown. (Cheers.)

Mr. Charles Gardner, of Alexandria, supported the toast, and said he voiced the feelings of all the farmers when he said he offered him a very cordial welcome on his return to this part of South Africa. He was their good and true friend. As a sportsman he was not to be beaten, and one always welcomed a visit from him to a farm. (Applause.)

Mr. Robertson, who was cheered on rising to reply, stated that within the short space of thirteen months he had experienced speeding and parting, and welcoming the coming guest. It had been said by a man who had travelled very widely through the Union of South Africa that there were only two places worth living in—one was Capetown, and the other Grahamstown. He (Mr. Robertson) had had the pleasure of living in both, and he certainly preferred the latter. (Applause.) He had been connected with Grahamstown, Upper and Lower Albany, Alexandria, and Bedford for nearly sixteen years, which was no inconsiderable part of the working span of a man's life. During that time he had come mostly in contact with the farming community. Sixteen years ago he was mighty green in regard to the stock diseases of the district, but during that period he had received very much assistance from the farmers, and many valuable hints in his work of investigation of animal diseases in the Eastern province. He had, moreover, always received the utmost kindness and courtesy. He did not think he had a single man who had a spite against him in his professional capacity. When he went

to the Transvaal he felt he was called upon to do so but he soon learnt the difference between the two places. It was only when one found himself removed from civilization—(oh, oh)—yes, he was seven miles out of Pretoria, beyond the sanitary dumping heaps—and found farming conditions different and no personal comfort that he realised the advantages of Albany. There was no part of the country which had made such vast strides in the matter of stock and personal comfort as the district he had mentioned. Fifteen years ago there were no houses to compare with those now built, and so it was with stock. They had probably the finest cattle to be found in the Union. He had inquired in England where were the Ayrshires and big cattle, and he was told that the men in South Africa and the Argentine were buying them, and that South Africa had better cattle than were being bred in England. Here was a lovely country, an equable climate, a splendid rainfall, nothing to trek for, and one of the finest labour supplies through the whole of the Union. He thanked those present very heartily for their welcome to him and trusted the kindly feeling existing between the men in the district and himself would continue. (Cheers).

Songs, recitations and anecdotes brought an extremely agreeable evening to a close.—*Grocott's Penny Mail.*

The Hunting Memorial Fund.

Subscriptions Received up to 7 p.m., Nov. 19th.

	£	s.	d.
Previously acknowledged	19	19	0
Mr. J. W. Brownless, Kensington, W.	2	2	0
W. Watts, 23 Lillie Road, S.W.	2	2	0
A. Payne, "Cintra," Weybridge	10	6	
George Urquhart, Derby St., Mayfair	1	1	0
A. P. Burgon, Haverhill, Suffolk	1	1	0
H. Smith, Worthing	1	1	0
Wallis Hoare, Cork	2	2	0
J. Carter, 128 Goswell Road, E.C.	1	1	0
General Smith, Blackheath	3	3	0
Mr. DellaGana, Southampton	2	2	0
J. Bell, Carlisle	1	1	0
J. B. Martin, Rochester	1	1	0
J. A. Lawson, Manchester	1	1	0
F. Hobday, Kensington	1	1	0
D. Imrie, Bishopbriggs, Glasgow	2	2	0
	£42	10	6

Bankers: London, City and Midland Bank, Ltd., Kensington Branch.

THE LATE WILLIAM HUNTING.

Mr. Trevor Spencer writes:—"I should like to tell you with what sorrow I received the sad news of the death of the revered Editor, and how conscious I am of the blank which his loss means to every member of the profession the world over. In my opinion he was one of the greatest all round men who has ever adorned our ranks, and it is difficult to believe that his place will ever be really filled. This humble word of appreciation is somewhat belated, but I have had one hand disabled, and that has interfered with my correspondence."

GOVERNMENT PUBLICATIONS.—Messrs. Wyman and Sons (Limited), official sale agents in England and Wales for Parliamentary papers and Stationery Office publications, have published the following, the price including postage: Foot-and-Mouth Disease in Ireland: Report for 1912, 1s. 10d.; Irish Milk Commission Final Report, 8d.; Milk and Cream (No. 2) Circular, 1½d.

CORRESPONDENCE.

PATENT MEDICINES FOR ANIMALS.

Dear Sir,

Prof. Hobday and Dr. Lander are to be heartily congratulated upon the course they are taking with regard to patent medicines for animals. It is quite time that something was done to enlighten the public as to the very harmful effects some of the terrible concoctions have.

One very widely advertised specific, to my knowledge, has caused the death of several horses and a number of cows, besides being the means of an unfortunate cowman losing an eye through a drop falling into it while drenching a beast. It is so irritating that whenever given to horses it has removed nearly all the epithelium from the mouth—to say nothing of the pharynx and stomach, and must have caused the most excruciating pain. When injected per vaginam for the removal of the afterbirth (as recommended on the bottle) it has caused severe sloughing of the mucous membrane, straining, and sometimes death.

At my suggestion the R.S.P.C.A. have taken up the matter and warned the manufacturers of its irritating character.

One can hardly comprehend—unless one visits the stands at our large shows—how it is such mixtures are bought at all, but the fact remains that large quantities are so purchased by a confiding public.

If Dr. Lander and Prof. Hobday can lessen this evil they will have earned the gratitude not only of veterinary surgeons but of every horse lover.—Yours faithfully,

G. P. MALE.

Reading, Nov. 18.

REBATE ON PETROL.

Sir,

I am obliged to Mr. B. P. J. Mahony for having so promptly taken up the question of a rebate on petrol. When a suggestion which concerns our profession is made by an individual, it is too often passed over and there is no more heard of it. How differently do members of the medical profession act.

Mr. Mahony's spirited offer is to be admired, and I would gladly take on myself to do as he desires, were it not that I consider concerted action by our Societies would prove more effectual—especially as I am not sure of its being a question for the Law Courts in the sense that Mr. Allen's case was. The latter would depend upon whether the rebate to the sister profession was inserted in an Act of Parliament to "the medical profession," or was merely an after concession granted by a Minister of the Crown.

A consultation could be more conveniently held at a general meeting, and as one will be held by the V.M.A. of Ireland during this month, let us hope that members will make it their special business to attend in large numbers and set the petrol ball rolling.—Yours truly,

JOHN HOLLAND.

Athy. Nov. 1st.

THE UPKEEP OF MOTOR CARS.

Sir,

I read Mr. Woods' letter on "the upkeep of motor cars" with interest. If the cost of repairs to the car is roughly £1 per week, is 20% depreciation sufficient to allow? What does the item "car, chauffeur, and depreciation at 20% per annum" mean? Why put the chauffeur in along with the depreciation?—Yours truly,

G. MAYALL.

BOOKS RECEIVED.

A TEXT-BOOK OF HORSESHOEING, by A. Lungwitz, Translated from the 10th German Edition by John W. Adams, A.B., V.M.D. New Revised Edition. 160 illustrations, 178 pages, 8vo., Cloth, 7/6 net. J. B. Lippincott Company, Publishers, 16 John Street, Adelphi, London.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1325.

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VOL. XXVI.

THE INTERNATIONAL VETERINARY CONGRESS.

To-day we print a subscription list from Mr. Garnett which shows that this fund is making rather better progress than when we alluded to it a few weeks ago. At that time over £300 was needed to reach the minimum, then fixed at £3500. To-day the shortage only amounts to about £200. But as the Congress approaches it is becoming clear that an unusually large number of foreign visitors may be expected to attend it, and therefore it has been found necessary to raise the figure of the minimum sum required. It is now estimated that £4000 will be wanted to make a successful Congress, and Sir John M'Fadyean, in the personal appeal he has circulated within the last few days, states that amount as necessary. At present, then, £700 is still required for success.

If most of our members had already subscribed to the fund, it might be difficult to raise another £700. But so many have not yet subscribed at all that the task ought to be easy. If half the men who have not subscribed were to give half-a-guinea each, the whole sum would be raised at once. This large proportion of non-subscribers amongst us is alluded to by Sir John M'Fadyean in his circular letter. He suggests that many who could afford to subscribe "have not done so because they have not realised to what an extent the honour of the profession is pledged to see that the Congress in London shall be no less successful than any of those previously held." This is a crucial point—most of us do not yet recognise how much is at stake. If the Congress should fail for lack of funds, the whole discredit of the failure will fall upon English veterinary surgeons; a little thought will convince everyone of this. And the sum now required is comparatively small.

THE UPKEEP OF MOTOR CARS.

Recently Mr. W. Woods published the second year's upkeep cost of his motor car. Thanks are due to him, and we wish that other veterinary motorists would follow his example. An increasing number of practitioners now use motor cars—or think of doing so, many of the latter know little of their working cost, and to these such reports are valuable, so also would be similar reports of the smaller cars, cycle cars, or even of the single motor cycle, which is very useful in some practices. One year's report is enlightening, reports extending over a series of years, such as that furnished by Mr. Woods, are more so.

IS ANTI-TETANIC SERUM CLINICALLY EFFICACIOUS AS A PREVENTIVE?

On page 264 of *The Veterinary Record* for October 25th, 1913, Mr. W. G. Burndred, in his paper before the Lancashire Veterinary Medical Association, described an accidental penetration of the abdominal wall of a horse.

"Case No. 5.—By morning, urgent symptoms were relieved. Tetanin was injected as a preventive. The wound kept healthy; and there was no discharge. Tetanus developed on the ninth day, and in spite of further injections of tetanin, the animal grew rapidly worse and died on the eleventh day."

In the discussion which ensued,

"Mr. Noël Pillers referred to the case in which tetanin was injected as a preventive, and he presumed that anti-tetanic serum was meant. If so, he failed to see why tetanus should supervene, as the serum was reliable. Was the serum from a good firm, and was the dose sufficient?"

In his reply, Mr. Burndred said:

"In Case No. 5 he did use anti-tetanic serum which was obtained from the Pasteur Institute."

In the report of the annual meeting of the North Wales Veterinary Society in *The Veterinary Record* for November 8th, 1913, page 309, Mr. L. W. Wynn Lloyd, in describing the progress of an operation for umbilical hernia in a horse, says:

"As we had attended a case of tetanus on this farm, we injected a dose of anti-tetanic serum on September 6th as a precaution. On the 23rd we went to remove the clam, and were surprised to find that tetanus had set in. The clam was removed, and serum injected daily for eleven days. He was taken out for exercise on October 14th, and has since maintained good progress."

Thus, within a short time, we have two records of the failure of anti-tetanic serum to prevent lock-jaw. The question naturally arises in one's mind as to how many cases of failure are met with in practice, and not recorded. Following upon this, many would like to know the reasons why the disease supervened. The serum, the method of use, the patient, and the surroundings have to be investigated.

Bacteriology tells us that anti-tetanic serum is in reality a dose of bodies which will neutralise the toxin of the bacillus.

In the above cases, was the proper dose used? Was it carefully made, and was it fresh and uncontaminated? If bacteriology is correct, and the material was used as directed and was fresh, are the manufacturers liable for the animals?

Possible chances of error creep in with the method of injection, especially if some of the

injection escapes; the patient one would imagine to be a constant factor, but it is conceivable that a surrounding teeming with tetanus bacilli might allow the wound to become so affected as to generate toxin enough to neutralise the anti-toxin.

It would be interesting to hear what Messrs. Burndred and Wynn Lloyd have to say in explanation of their cases. Unless there is some satisfactory explanation, one must not think that a dose of serum will do away with insurance in standing-operation castration cases.

"PRE-HISTORIC."

CANKER.

By W. R. DAVIS, M.R.C.V.S., Enfield.

It has been said by Chabert that canker is the opprobrium of veterinary medicine. If he had made that statement with regard to mammitis I would have agreed with him. As to canker, I have found it to be a disease very amenable to treatment. Every case that I have undertaken to treat during the last ten years has recovered, and has got better quickly.

I have adopted a method of my own after having had failures when applying some of the lauded remedies. I have tried the hot iron, which is barbarous; caustics, which are cruel; bits of tightly rolled tow, which are fantastic; arsenic internally, which it is said is of service in the other branch.

If one reflects a little it becomes apparent that in canker we have to do with a skin disease, for the part affected is the keratogenous membrane, and what is this but a slightly altered skin? The disease is a chronic catarrh of slightly altered skin. Why then should it not be treated as eczema? This is how I presented the case to myself, and I found my assumptions abundantly justified by the results obtained when putting them into practice.

There is a great difference in the gravity of the cases presented. Supposing the frog only is affected, four to six dressings should put the case right, even if all four feet are affected. When the disease has extended to the sole a longer period of treatment is, of course, necessary, say ten or twelve dressings.

Where the wall is involved the case assumes increased gravity. If the horse is not a valuable one I would not attempt treatment if the wall in all four feet was badly diseased; not that such a case cannot be cured, but that economically it is not worth undertaking.

As a rule, when the wall is affected it is that of the hind foot. If the wall of both hind feet together with the sole and frog are diseased, a cure may be looked for in three or four months.

I have a mare under treatment at present that had all four feet diseased; frogs and soles of both fore feet, frogs, soles, and wall of both hind feet. The wall of the off-hind foot was so severely affected that the disease had nearly reached the coronet on the inside, and on taking hold of the heel the wall and bar could be moved to and fro, so great was the destruction of the laminae. I admit

that she has been a long time under treatment—nine months—but then she has worked more than seven months of that time every day, and was only dressed once a fortnight, or once in three weeks. The fore feet were cured in a couple of months, and then to dress the hind feet, the mare—a very spiteful brute—had to be cast every time the dressings were applied, except the last time, when she stood perfectly. I am convinced that only one more dressing is required to effect a cure in this case, as the only trace of disease now is a little hole at the heel on the inside of each hind foot.

This is the worst case that I have ever seen. The animal was very lame, and was unable from this cause to work for the first two months. I believe that a horse with canker is best at work if there is no lameness.

I do not propose to publish my method of treatment for the benefit of grooms, farriers, quacks, and clever farmers, but I am not unwilling to answer letters from members of my own profession who have difficulties in the treatment of the malady.

[We entirely endorse Mr. Davis' reticence in this matter. It is not a "scientific" attitude, but it is common prudence. Most men who touch country practice become acquainted with cases of cruelty—the cruelty of ignorance and conceit—some of them abominable, in the "doctoring of animals."]

ABSTRACTS FROM FOREIGN JOURNALS

THE CONTAGIOUS MAMMITIS OF MILCH COWS.

Fernand Espouy has published (*Le Progrès Agricole*) an article upon this subject. The disease is known in Germany and Switzerland, where it is very common, under the name of Gelbert Galt. It is caused by various microbes, and especially by the streptococcus of Nocard and Mollereau, from which the name of streptococcic mammitis has also been given to it.

The first symptom is simply a diminution in the quantity of milk. The appearance of the milk is normal, but it "turns" rapidly, and causes the coagulation of other milk with which it is mixed. Later, the udder hardens, an indurated nodule ranging from the size of a pigeon's egg to that of a baby's fist, appears about the base of the teat, and the milk secreted by the affected quarter becomes still less in quantity, and is watery and bluish. In other respects the animal's condition is not altered, the appetite and spirits are maintained.

The lesions only develop very slowly, but after a few months the induration has involved from one-third to one-half of the affected quarter. The milk has now lost its ordinary characters and is viscous, reddish brown or yellow in colour, salt in taste, and contains numerous fragments of casein in suspension.

At first the inflammation is confined to one quarter alone, but later it affects the other quarters in succession. The milk diminishes more and more, and finally disappears.

Contagion from cow to cow is not direct, and infected litter plays no great part in disseminating the disease. The great factor in contagion is the intermediance of milkers, perhaps by neglecting to wash their hands after each milking, perhaps by the common practice of rubbing the teat with previously drawn milk before milking. The milker thus transmits the disease, not only from quarter to quarter in the affected cows, but also from cow to cow. The microbe, brought to the teat by the milker's hands, penetrates the milk duct to the interior of the gland, and there multiplies and causes the disease.

This contagious mammitis only occurs sporadically upon farms where the calves suck directly from the teat, while it assumes an enzootic form upon farms where the cows are milked by hand.

The causal streptococcus may be encountered in the litter, and may at a given moment manifest virulence and provoke infection. This, however, is a rare mode of contagion. Most frequently the disease appears in a cowshed through the introduction of an infected cow, and is then transmitted from cow to cow, and from cowshed to cowshed by the milkers.

Treatment can only have good results when it is undertaken at the commencement of the disease. Intra-mammary injections are used—either a 4 per cent. solution of boric acid (Nocard), or a 1 in 1000 to 1 in 200 solution of fluoride of sodium (Moussu). These injections are repeated two or three times at intervals of five or six days, and the treatment is completed by applications of an "anti-mammitis ointment." By degrees the indurated nodule disappears, and the milk regains its normal characters.

When the lesions are old, and the induration considerable, complete recovery cannot be hoped for. The simplest treatment then is to remove the source of contagion by completely drying up the diseased gland. This may be effected by injecting either a 10 per cent. solution of boric acid, or a solution of nitrate of silver (Weber), or Schmidt's solution (equal parts of absolute alcohol and glycerine, 125 grammes each). When several quarters are affected, they are treated successively.

Prophylaxy is more important than treatment. Separation of the healthy from the diseased animals is of prime moment, and thus the early diagnosis of the disease becomes very important. Microscopical examination of the milk is the best method of effecting this. But the microscopical examination of milk demands apparatus and advanced technical knowledge, and a method more within the reach of agriculturists is desirable. Trommsdorff, Ernst, and others have supplied one. They have found that chronic mammitis is accompanied by a considerable augmentation of leucocytes in the milk, which may be demonstrated by collecting milk in graduated capillary tubes, and allowing them to stand for a few hours, or preferably centrifuging them. A deposit is thus obtained, which is clearly visible upon a black ground, and which, although slight when the cows are healthy, is very abundant in diseased animals. The graduation of the tubes

permits the amount of the deposit to be measured. This method is commonly practised in Germany, and is sufficiently precise to give useful indications, and to permit the detection and isolation of cows in the early stages of the disease.

The author mentions some prophylactic measures which will suggest themselves to all clinicians, such as separate attendants for diseased and healthy animals, disinfection of milkers' hands after each milking, removal of litter, and disinfection of cowsheds, etc. The milk from affected quarters should not be spilled upon the ground, as is often done, but should be drawn into special receptacles and sterilised by boiling. It may then be used for feeding pigs.

Lastly, in regions where contagious mammitis is enzootic and permanent, it is important to pay great attention to newly-purchased cows. Their udders and milk should be carefully examined, and they should not be placed in the general cowshed till they have first undergone a period of quarantine.—*Annales de Méd. Vét.*

W. R. C.

TENTH INTERNATIONAL VETERINARY CONGRESS, LONDON, AUG. 3—8, 1914.

Since you published my last list in *The Record* of May 3rd, I have received the following donations, either promised or paid, to the Organising Funds of the Congress.

I have not yet reached by some £200 the minimum which the Committee thought would be necessary to carry the Congress through with credit to the profession, and they now find that the minimum they first named must be very largely increased. With this end in view therefore, Sir John M'Fadyen has addressed an appeal this week to all those who have not yet sent a donation.

I shall be obliged to anyone calling my attention to errors in the present list. Donations to the Organising Fund should be sent direct to, yours faithfully,

FRANK W. GARNETT, Hon. Treas

Dalegarth, Windermere.

Nov. 22nd.

Paid.			Promised.		
£	s.	d.	£	s.	d.
50	0	0			
1	1	0			
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Sheather, C. & Sons					
Glass, J. N.			1 1 0		
Simpson, P. J.					
Williams, W. R.			4 4 0		
Westgate, H. G.			4 4 0		
Margaron, E.					
McKerlie, J.			2 2 0		
Walker, G. K., Maj.			1 1 0		
Cust, A.			1 1 0		
Temple, J.			3 3 0		
Scott, Rd.			1 1 0		
Thornton, F. J.			2 2 0		
Nettleship, E.			5 0 0		
Dunstan, E.			1 1 0		
Townsend, C. W.					
Thomson, Maj.-Gen.			5 0 0		
Parr, Geo.			10 10 0		
Johnson, E. D.			1 1 0		
McKenna, J.			5 0 0		
Buscomb J.			2 2 0		
Banham, G. A., & Son					
Wharam, S.					

5 5 0	Burt, W., Jun.,		2 2 0	Pollard, H., per Yorkshire V.S.	2 2 0
5 5 0	Bradley, Dr. O. C.	5 5 0		Tainsh, J.	2 2 0
4 4 0	Gofton, Prof. A.			Carter, G. W.	2 2 0
5 5 0	Reeks, H. C.	15 15 0		Holland, H. M.	2 2 0
10 6	Powell, C. A.	10 6	3 3 0	Robinson, M.	3 3 0
3 3 0	King, G. E.	3 3 0	5 5 0	Clarkson, J.	
1 1 0	Jagger, H. C.	1 1 0	10 0 0	Central V.M.A. of Ireland	10 0 0
2 2 0	Page, C. Wood	2 2 0	3 3 0	Scottish Metropolitan V.M.S.	
1 1 0	Siddall, E. Lloyd	1 1 0	1 0 0	McSwiney, E.	1 0 0
2 2 0	Latta, J.	4 4 0	2 2 0	Penberthy, J., Prof.	2 2 0
3 3 0	Howard, P. J.	3 3 0	3 0 0	Verney, F. A. (Basutoland)	3 0 0
2 0 0	Peacey, E.		10 6	Doughty, W. A.	
25 0 0	Trigger, R. C.		1 1 0	Inglis, T. M.	
1 1 0	Lang, W. W. (1 1 0 guaranteed)	1 1 0	1 11 6	Minett, F. C.	1 11 6
	Millar, A.	1 1 0	1 0 0	Amos, S. T. A. (South Africa)	1 0 0
	Lindsay,	1 1 0	3 0 0	Skues, F. M. (South Africa)	3 0 0
3 3 0	Nichols, H. H.	3 3 0	5 5 0	Lawrence, C. J. R.	5 5 0
1 1 0	Levie, Alex.	1 1 0	10 6	Anderson, Wm.	
3 3 0	Barling, Wm. C.	3 3 0	5 5 0	North of Ireland V.M.A.	5 5 0
1 1 0	Beeson, S.	1 1 0		Glover, R. C. (Rangoon)	10 10 0
1 1 0	Richardson, T. O.	1 1 0		Harvey, F. T.	2 2 0
5 5 0	Trewin, F. T. (5 5 guaranteed)	5 5 0	5 0 0	Bell, J. J.	5 0 0
5 5 0	Lancashire V.M.S.		5 5 0	Byerley, M. G.	5 5 0
1 1 0	Stent, E. H.	1 1 0	5 0 0	Hutchins, E. (Uganda)	5 0 0
5 0 0	Smith, Gen. F.		2 0 0	Viljoen, P. R. (Pretoria)	2 0 0
10 6	Butters, A. L.			Border Counties V.S.	10 0 0
1 1 0	Porrett, A.	1 1 0	10 10 0	Willett, F. W. & A. E.	10 10 0
11 0 0	Central V.M.S.		10 10 0	Natal V.M.A.	10 10 0
1 1 0	Hart, Jas.	1 1 0	2 2 0	Shilston, A. E. (Natal)	2 2 0
20 0 0	Abson, J.		10 6	Robson, W. H.	
3 6 8	Jones, T. Eaton		10 10 0	Roots, Wm.	10 10 0
1 1 0	Lothian, Wm.	1 1 0	Midland Counties V.S., per H. J. Dawes, Esq.		
10 10 0	Eastern Counties V.M.S.			Brown, W. H.	1 1 0
1 11 6	Smith, S., sen.			Bainbridge, J.	3 3 0
1 11 6	Smith, S., jun.			Barling, F. W.	4 4 0
1 1 0	Locke, G. H.	1 1 0		Blunson, W.	1 1 0
10 0 0	Garnett, F. W.			Brooke, W. H.	10 10 0
1 1 0	Burgon, A. P.			Brookes, W. T.	5 0 0
10 6	Buckingham, H.			Burchnall, J. J.	5 5 0
6 6 0	Standley, H. P.			Byner, C. J.	10 10 0
5 5 0	Bowes, H. G.			Carless, W. S.	10 10 0
5 5 0	Male, G. P.			Chambers, T.	1 1 0
10 10 0	Leach, E. H.			Clifford, C. J.	2 2 0
1 1 0	Wallis, F. M.			Clunas, R.	1 1 0
	Officers A.V.C. (additional)	65 0 0		Cockburn, R.	3 3 0
1 1 0	Jack, D. S.			Dawes, H. J.	10 10 0
3 3 0	Lloyd, J. S.			Dewille, J. C.	3 3 0
50 0 0	McCallum, A. I.			DeVine, B.	3 3 0
5 0 0	Dunstan, J.			Duckworth, H.	3 3 0
3 3 0	Golledge, C. H.	3 3 0		Dayus, C. E.	1 11 6
5 5 0	Martin, J. B.			Evershed, P. M.	1 11 6
1 1 0	Waters, W.			Forsyth, A. B.	3 3 0
10 10 0	Bloye, W. H.			Forwell, D.	1 1 0
5 0 0	McCall, J. Mc.			Heelis, L. W.	1 1 0
25 0 0	Stephenson, C.			Hobson, T. H.	3 3 0
5 5 0	Peddie, J.			Hutchinson, J.	1 1 0
10 10 0	Winter, C. E.	10 10 0		Hiles, H. B.	3 3 0
33 6 8	National Veterinary Assoc.			Ison, W. E.	3 3 0
3 3 0	Holl, A.			Ludlow, T.	3 3 0
1 1 0	Saunders, P. T.	1 1 0		Malcolm, J.	10 10 0
3 3 0	Lawson, J.	3 3 0		Martin, J. (Wellingt'n)	6 6 0
2 2 0	West of Scotland V.M.S.			Marriott, S. J. }	
	Douglas, T. A.	6 6 0		Marriott, S. W. }	10 10 0
2 0 0	Hodgman, J. A.	2 2 0		Murray, R.	1 11 6
2 2 0	Reynolds, E. B.			O'Neill, E.	2 2 0
1 1 0	Pool, W. A.	1 1 0		Over, R. H.	5 5 0
1 1 0	Morton, W. F.	1 1 0		Pemberton, H. L.	2 2 0
1 1 0	Broadhurst, O. S.	1 1 0		Phillips, R. L.	5 5 0
2 10 0	Harris, Lieut.-Col.	2 10 0		Prince, F. T.	3 3 0
3 3 0	Parker, Thos.	3 3 0		Slipper, T.	3 3 0
3 3 0	Veitch, Alex.	3 3 0		Smith, G.	3 3 0
2 2 0	Williams, G. H., 2nd donation	2 2 0		Tart, W. J.	3 3 0
1 1 0	Roberts, Arnold	1 1 0			

Thompson, Norman	1	11	6			
Tipper, L. C.	6	6	0			
Thackeray, H.	1	1	0			
Wilson, Prof. W. T.	1	11	6			
Whyte, J.	1	11	6			
Woodcock, E. H.	1	11	6			
Woodward, S. M.	1	1	0			
Gibbings, F. H.	2	2	0			
	173	10	6	173	10	6
Packman W., per Lancashire V.S.	5	5	0			
Lawson, Alex., 2nd donation,						
per Lancashire	10	0	0			
Brittlebank, J. W., per Lancashire	5	5	0			

CENTRAL VETERINARY SOCIETY.

An ordinary general meeting was held at the Holborn Restaurant, on Thursday, November 6th. Prof. G. H. Wooldridge in the chair.

The minutes of the previous meeting were taken as read and confirmed.

CORRESPONDENCE.

The Hon. Sec. read the following letter from the Secretary of the Royal College of Veterinary Surgeons:

"Your letter conveying a resolution passed by the Central Veterinary Society with regard to the Anaesthetics Bill was laid before the Parliamentary Committee here on Thursday last. As, however, the Bill is no longer before Parliament, it was decided that the letter be allowed to lie on the table."

The Hon. Sec. announced the receipt of Memoirs of the Department of Agriculture in India. "Some cases of Surra treated in the field and in the laboratory during the autumn of 1911," by Major J. D. E. Holmes, M.A., D.Sc. I.C.V.D. The Hon. Sec. was requested to write and thank Major Holmes for sending the Memoirs.

Letters and telegrams were received from the following regretting inability to attend the annual dinner: The Right Hon. W. Runciman, M.P. Sir F. Low, K.C., M.P., Dr. Bashford, Dr. O. C. Bradley, Prof. McCall, Prof. Mettam, Messrs. J. H. Carter, J. T. Angwin, M. Tailby, S. Villar, W. L. Harrison, and C. Roberts.

Elections, Nominations, and Resignations. Vet.-Maj. W. A. PALLIN, The Royal Horse Guards, Windsor, and G. P. MALE, Esq., Reading, were unanimously elected Fellows of the Society.

Messrs. W. NORMAN THOMPSON, M.R.C.V.S., Midland Railway; B. A. McGUIRE, M.R.C.V.S., 469, Oxford St., W.; W. H. ANDERSON, M.R.C.V.S., Rochester House, Uxbridge; and M. G. BYERLEY, M.R.C.V.S., 56, South Street, Greenwich, S.E., were nominated Fellows of the Society, and will come up for election at the next meeting.

Vet.-Major E. P. BARRY, and F. O. PARSONS, Esq., tendered their resignations. The Hon. Sec. was instructed to write these gentlemen asking them to reconsider their decision.

THE LATE MR. WILLIAM HUNTING.

The PRESIDENT: We have now a very sad duty to perform, namely, to record our irreparable loss in the death of Mr. William Hunting, one of the founders, and, therefore, one of the oldest members, a past President, and one of the present members of the Council of this Society. When we heard of his decease your Secretary arranged for a floral tribute to be sent, and he and I attended the funeral as your representatives, as well as on our own personal behalf.

Mr. Hunting was so well known to all of us that each of us feels that he has lost a close personal friend. His

personality was absolutely unique. Indeed, when anybody had a few minutes conversation with him in a crowded room he always made you feel that you were in reality the one person above all others in the room that he wanted to talk to. Of whom else could such a thing be said? He was one of the most regularly attending members at our meetings, frequently introducing subjects for discussion, and always ready to join in and give us the benefit of his opinion, which was so valuable on account of his wonderful power of introspection and his unique experience. Moreover, he was never dogmatic in his opinions, and he showed the greatest tolerance and respect for the views of others who did not agree with him. No doubt it was these qualities that made him such an ideal examiner. In an examination, he made his candidates feel so much at ease that he could always get the best out of them, and it was not until afterwards, on reflection, that the examinee realised the great extent of the ground he had been taken over. His idea was not to find out what a student didn't know, but to find out what he did know. Students have indeed lost a good friend also.

Of Mr. Hunting's professional and other attainments much has been written, and I do not wish to refer to them now, beyond saying that he was an ornament to every branch of the work which he undertook. He might have amassed a large fortune if he had devoted himself to his own personal interest, but Hunting lived for his profession, and I feel sure that you will all agree with me when I express the opinion that there has never been a man in our day, or any other day, who has done more for the general welfare of the veterinary profession and its members. His name will be handed down to posterity as one of the giants of the veterinary profession, through some of the most critical periods of its existence.

In addition to his serious side, Mr. Hunting possessed the keenest sense of humour, and though this is not quite the time to refer to it, I am sure that many of us could contribute some interesting note that would be worthy of including in any "Memoirs of Hunting," if anybody would undertake to compile them.

In conclusion, gentlemen, I can only express the sadness at heart that I feel in the loss of one whose friendship I was more than proud. It is really difficult to realise that we shall not have him at our meetings any more. I now propose to you that a vote of condolence be passed, and that a letter be sent to Mr. Fred. and Miss Hunting expressing our deepest sympathies with them in their very great loss.

The resolution was passed in silence, the members standing.

THE ANNUAL DINNER.

Immediately following the meeting of the Society the annual dinner was held, to which 85 sat down. Prof. G. H. Wooldridge presiding.

Following an excellent dinner, the President proposed the usual loyal toasts, which were accorded musical honours.

Sir STEWART STOCKMAN, in proposing the toast of "The Central Veterinary Society," in the unavoidable absence of the President of the R.C.V.S., said the Society claimed to be the largest, and very nearly the oldest, Society of its kind in Great Britain; it claimed to exercise a considerable influence upon what might be called the veterinary thought of the country, and to exercise a benign influence on the destinies of the veterinary profession. It fell as a duty to him sometimes to collect sums of money from the profession for benevolent and public objects, and he had always met with a generous and courteous response from members of the Society. He had much pleasure in proposing the toast, and in associating with it the name of Professor

Wooldridge, whom he congratulated upon the position he occupied, and desired to convey to him that our members considered it a great honour that he should occupy the position of President. (Cheers.)

The toast was accorded musical honours, "For he's a jolly good fellow" being heartily sung, and three cheers being given for Prof. and Mrs. Wooldridge and family.

The PRESIDENT, in responding, said he felt it a very great honour to occupy the chair, an honour he owed entirely to the kindness of the Fellows of the Society. He thanked them for the very hearty way in which the toast had been drunk. He thought there might be a good reason for the heartiness of its reception. It reminded him of an old Scotch toast in which the members rose and drank to themselves, saying, "Here's tae us, wha's like us," and if they realised they had been drinking to themselves in that way, it might to some extent account for the heartiness of its reception. The International Veterinary Congress was to be held in London next year, and as it would occur in his year of office it made him particularly anxious for its success. As Sir Stewart Stockman had already pointed out, the Society had not been backward on previous occasions when assistance for such objects was required, and he was sure he would have their assistance and hearty support next year in making that Congress a success, though the responsibility for its success rested largely upon the whole of the veterinary profession. He was, like Mr. Alfred Lester, an optimist, and always looked on the bright side, and he was sure he would not look in vain when he asked the members of the Society to rally round him on that occasion. He was an optimist of the same order as the small boy who, when asked what an optimist was, said "He is a man with one eye who is thankful he was not bow-legged. (Laughter). He hardly thought they were serious in what they sang after drinking the toast. (Cries of "We were.") It made him feel something like the prisoner at the bar, or rather the man who was hauled up to answer for some misdemeanour, and who was acquitted, and a friend said to him when he got outside "Look here, Bill, you did do that, didn't you?" and the man replied, "I thought I did until I heard the lawyer make that speech on my behalf, and now I hardly think I did." (Laughter.) He was pleased that they did not omit a cheer for the little Wooldridges. They consisted of a nice little pug dog and a cat, but as they were members of the family, he was very pleased they were not omitted. (Laughter.) He again thanked them for the way in which they had honoured the toast, and with them hoped the Central Veterinary Society would continue to flourish and to carry on the good work it was doing for the general welfare of the veterinary profession.

Sir SYDNEY OLIVIER, K.C.M.G., who on rising to propose the toast of "The Royal College of Veterinary Surgeons," was received with loud cheers, said he felt it a great honour to be asked to propose the health of the Royal College of Veterinary Surgeons, which was the organising body of that important profession. He shared the regret which had been expressed at the absence of the President, Mr. Carter. He felt a special degree of sympathy with the toast, because he represented the Board of Agriculture, the Government Department which must most vividly recognise the importance of their profession. For a good many years, he had been as the Governor of a very large and important Colony, greatly interested in the rearing of stock and the preservation of the health of men, and through his Colonial experience he had learnt very fully to appreciate the function which their profession performed, not only in respect of the life of animals, but in respect of the life of man. Nothing had been more remarkable than the great broadening of the provinces of almost every department of medical science during recent memory. At the International Medical Congress an

important paper was read showing how the boundaries between what was considered the medical and the surgical had been broken down by great discoveries in regard to the causes of disease, and in like manner there had been a breaking down of the barrier between veterinary science and medical science. Many diseases of animals directly affected man, and they could not study the diseases of animals without studying the diseases of man. Conversely, the study of the diseases of animals afforded analogies to those which afflicted the human race—(hear, hear.) He recognised the enormous importance of the veterinary profession in advancing the health as well as the wealth of humanity. In attending to the health and welfare of animals they had an important function in maintaining the wealth of the community so long as animals were regarded as subsidiary to the wealth of mankind.

He was sorry to find that at the present time veterinary and medical science seemed to be suffering from an atmosphere of depression. There seemed to be a spirit of panic with regard to the future of their profession, and to his great concern, and that of the Board of Agriculture, the Royal College of Veterinary Surgeons was to some extent in financial difficulties, so that it had become necessary for them to promote a Bill in Parliament in order to re-enforce their position as a College by imposing a levy upon the profession to enable the College to carry on its necessary work. The Board of Agriculture were in favour of that Bill, and he only regretted that the enormous congestion of public business last session rendered it quite impossible for the President of the Board of Agriculture to say that the Government would lend its active support to it. They had to sacrifice a good many of their own Bills, and could not take up the Bill, which, nevertheless, they recognised was very necessary to those special interests which the Department had to watch over. He hoped that in an early session of Parliament they would be able to obtain that strengthening of the organisation of the Royal College of Veterinary Surgeons which the leaders of the profession had come to regard as necessary. (Hear, hear.)

There was a certain amount of despondency and hanging off from the profession, which he thought was quite mistaken. At the present time the Board of Agriculture were unable to fill appointments for Inspectors in their Department, and Professor Wooldridge had just told him that he was constantly applied to by veterinary surgeons to nominate assistants, but was unable to do so. The Department of Agriculture felt the disadvantage of that state of things so much that they had taken the step of recommending to the Treasury the doubtless very staggering proposal that they should increase the inducements offered in their Department to veterinary surgeons for entering their ranks by increasing the initial salary and allowing it to go up to a higher rate. (Cheers.) It was essential that the British Government should co-operate with the Royal College in its endeavour to place the profession on a sounder and more promising basis. The Board of Agriculture felt that need, and were endeavouring to respond to it. In recent times a Development Commission had been established whose function it was to pay attention to the needs of the community in regard to the encouragement of such sciences as veterinary surgery, and although the Development Commission had not yet actually published or authorised the plans which they proposed, they had shown a desire to frame recommendations on the lines which were foreshadowed in the report of the London University, and to endeavour to strengthen that University, and the veterinary profession which dealt with animal pathology generally, by linking up various Colleges and Institutions with the University of London, and by giving the University of London and those Colleges larger funds to work with.

A few months ago he had received at the Board of Agriculture a very influential deputation from the University of London, which represented the great difficulty of maintaining one of their subsidiary institutions, namely, the Brown Institute, which, in the opinion of very eminently qualified authorities, was doing valuable work in the pursuit of animal pathology. This gave an example of the need which was felt all over the field of their operations for additional support to institutions for veterinary education and research. Secondary and advanced educational institutions could not be maintained without some kind of endowment, whether State or private. There were from time to time persons who would endow such institutions as the Lister Institute, but in many branches of necessary education for the advancement and maintenance of the interests of the State they must depend more and more upon assistance from public funds, and he rejoiced that Parliament had had sufficient forethought to establish a Development Fund from which such institutions as instructed the veterinary profession could hope to have some assistance.

There was some apprehension that the motor development of the carriage and mechanical traction would displace a great part of the animal creation to which their attentions had been greatly devoted, but it was ridiculous to suppose that the motor industry would affect the whole stock breeding industry of England. He believed as much attention was being paid to stock breeding as ever, and that in the future more attention would be paid to it. They had for years led the world in stock breeding, and they were not going to abandon that lead. We must make a point of maintaining the health and increasing the security of their flocks and herds, our heavy horses, racehorses, and hunters, and those kinds of horses would be by no means extinguished by any development of motor traction. The matter of stock breeding was receiving as much, and even more, attention from the public and the Board of Agriculture than it had before. There was a demand that these valuable animals should be properly tended and cared for, and those who devoted themselves to that branch of activity would be well rewarded. In England they were at the present time bringing the veterinary interests more into line with the ordinary medical interests than had been done before. They had not only attempted to deal with such comparatively insignificant diseases as anthrax and glanders, which were inimical to the human subject, but they had joined hands in dealing with tuberculosis. In regard to glanders, he was sorry the Government had not seen its way to complete, or allow the veterinary profession to complete, the work which had been done by the local authorities in the administration of the laws for the suppression of glanders. The local authorities had done a great deal, and spent much money in stamping out that disease in their localities, and had confined the disease to such measurable limits that, so far as the home-grown disease was concerned, it could probably be extinguished, but it was still liable to be imported from abroad. In the opinion of the Board of Agriculture it was unfair upon local authorities that they should have to deal with the whole of the inspection and regulation of the imported horse trade, which went through certain ports to all parts of England. He regretted that the English Government—and he spoke of it collectively—had not found it possible to place at the disposal of the Board of Agriculture the necessary funds to provide inspectors to carry out the regulation of the imported horse trade so as to stop the increase of glanders, and thus complete the work which local authorities had done in dealing with the disease. The Government had passed an important Tuberculosis Order in advance of the Milk and Dairies Bill. He did not blink the fact that from time to time erudite and resolute men assured him that the whole of the Tuber-

culous Order was founded on a mistake, but if there was still any doubt, that was one of the points upon which the profession had to make up its mind—was tuberculosis, or was it not, communicable from bovines to man? They were acting under the belief that it was communicable, and so long as they thought it was, they felt it their duty to come in aid of the medical profession and do their best to stamp out the plague. If there was any uncertainty upon the matter, was it not evidence of the need for further promotion of veterinary study and work in their laboratories—for which they were asking for further assistance from the State, in order that their Colleges and laboratories might settle such questions? More and more they were coming to realise that veterinary science must become fused with the general pathological study of the human and animal races, and must co-operate to determine such questions. In that direction there were just as great openings for the exercise of genius, and for the rewards of genius, in the veterinary medical branch as there were in any other branch of the profession. They regarded the whole of the study of pathology as one. Those who had specialised in animal pathology were not going to help them simply with regard to the diseases of sheep and cattle, but were going to help in the general development regarding the national life depending upon the health of men, women, and children, and the animals with which they consorted, and on which they depended for their happiness, life, and sustenance—a body of creatures whose lives and health depended upon one another.

He coupled with the toast the name of a most distinguished and admirable member of the profession—Sir John M'Fadyean—to whom the Board of Agriculture and the kingdom owed a great debt of gratitude. (Cheers).

[The toast was duly honoured].

Sir JOHN M'FADYEAN, LL.D., who was received with loud cheers on rising to respond, said he joined in the regret that had already been expressed that Mr. Carter was not present to respond to the toast. Had Mr. Carter been present he (the speaker) was sure he would have begun by saying what a great pleasure it was to all of them to have Sir Sydney Olivier with them that night. (Cheers). It was a great gratification to them that Sir Sydney Olivier had consented to propose the toast, and he had proposed it in terms which showed his appreciation of the services which their profession was capable of rendering to the great national industry of Agriculture. There were some things connected with the Royal College of Veterinary Surgeons which he thought Sir Sydney did not know, although he could not help being struck with the remarkably comprehensive grasp which Sir Sydney had already taken of the duties and functions of that profession. The Royal College of Veterinary Surgeons had a most democratic form of government. The domestic affairs of the profession were managed by a small Parliament of 32, who were elected by universal suffrage on the principle of one man, one vote. (Hear, hear). Every member of the profession who was accessible by post had an opportunity of voting at every election. The provisions of the Charter compelled one quarter of the members of the Parliament to retire annually, and it was thus possible for the electorate in the course of four years to absolutely change the composition of the representative body, and in half that time to absolutely dispose of any possible majority. Provision was thus made for securing that the will of the electorate with regard to domestic veterinary matters should prevail. He regretted that there was one matter on which the Royal College remained determinedly Conservative—it would not consent to pay its elected representatives. (Laughter). Although as a rule people did not like to be taken too seriously in after-dinner speeches, he was sure they would all feel in future that they had in Sir Sydney at the Board of

Agriculture one who was well-disposed towards them. (Hear, hear, and cheers). Sir Sydney would, he hoped, always be disposed to help them in any matter in which he felt satisfied that their interests and the public interests, and more particularly the interests of stockholders in this country were not in opposition. During his twenty years membership of that small parliament he had plenty of opportunities of gauging the manner in which the members of Council did their work and the impulses that moved them, and he ventured to say it would not be possible to find any similar body of men who did their duties with a more single-minded purpose, to promote the public interests. Their constant aim had been to join with the various teaching colleges in order to provide this country with the necessary number of veterinary surgeons educated up to the highest possible degree in all that related to the diseases of animals. The Council recognised that they had a function outside that of merely endeavouring to prevent or cure the diseases of domesticated animals; they felt that they had a not insignificant part to play in conserving human health. Sir Sydney had alluded to that in very eloquent terms, and had referred more particularly to the work which now devolved on veterinary surgeons in connection with the administration of the recently introduced Tuberculosis Order. He was a little surprised to find to find that Sir Sydney had some slight doubt as to whether bovine tuberculosis was communicable to man or not. He (Sir John) was under the impression that the important Royal Commission, on which medical and veterinary science were represented, had proved that beyond the shadow of a doubt; but if there still was a doubt as to whether tubercle bacilli coming from the udders of diseased cows could cause tuberculosis in children, then in his opinion it was the children and not the cow that ought to have the benefit of the doubt. (Hear, hear, and cheers). There was no ground, whatever, for staying the proceedings of the Tuberculosis Order until this doubt had been removed.

The Council of the Royal College of Veterinary Surgeons had always regarded it as its main duty to provide the country with properly qualified veterinary surgeons, but it was also their duty to protect the public from the deception which arose through uneducated and unqualified people taking to themselves the title of "veterinary surgeon." Both those duties were plainly laid upon the Royal College by its Charters and by the Veterinary Surgeons' Acts, but when those duties were imposed, it was not foreseen that it might involve an expenditure for which the assigned resources of the Royal College would not be sufficient. But that was what had actually happened, and as a consequence the insolvency of the Royal College of Veterinary Surgeons was a matter of certainty within a comparatively near period unless some means of increasing its income could be provided. It was in what he ventured to call a spirit of commendable self-sacrifice that the College agreed to tax themselves to provide the necessary money, and that was really almost the whole of the power that was sought in the Bill which, as Sir Sydney had reminded them, had been twice before Parliament without reaching the second reading. They would all go home cheered by what Sir Sydney had said with regard to that Bill; they were now quite assured that they had his sympathy, and he expressed the hope that the influence of the Board of Agriculture might be employed to induce the Government to give their support to the Bill when it was introduced into the next session of Parliament. (Loud cheers). In conclusion, he thanked Sir Sydney for having proposed the toast in such a kindly and sympathetic manner, and also thanked the Fellows for the hearty way in which the toast had been drunk. (Cheers).

Mr. T. SALUSBURY PRICE, on rising to propose the toast of "The Past-President" (Mr. McIntosh), said he

felt rather reluctant after the speeches of Sir Sydney Olivier and Sir John M'Fadyean. We now know if the veterinary profession requires to be uplifted or benefitted in any way, and if Sir Sydney can do it he will, as his speech denotes such a friendly feeling towards the advancement of the veterinary profession, and after such speeches I feel at a discount in standing here to propose the toast of the Past-President. I understand Mr. McIntosh has been a member of the Central Veterinary Association for about six years, and I wonder how it is that a new member should make such a rapid advance. I was a member of the Central for twenty-five years before I became President, but Mr. McIntosh did it all in six years. I don't know, unless it be that he comes from the north. (Applause). I also understand that he was one of the Governors of the Dick College for several years. He was also the President of one of the Scottish Associations for two or three years, and also on the Council of one of the municipalities of Scotland, and I expect and hope he will soon become one of the Mayors of London. They all knew that the Past-President had done remarkably well. The Past-President was what he called a stout President. (Laughter). This year they had a thin President, but after this year he was sure they would be satisfied with Professor Wooldridge's presidency as they had been with Mr. McIntosh's. Next year would be a grand year for the veterinary profession to show its colours; 1,200 to 1,400 members were coming to the Congress from all parts of the world, and a fund of £5,000 was required to make the Congress a success. £3,200 had been subscribed by about 300 veterinary surgeons, and there were 2,700 veterinary surgeons who had not yet been tapped, but he understood Mr. McIntosh and some other members of the profession were busy tapping them, and he wished them luck. He asked them to drink to the health of Mr. and Mrs. McIntosh and to wish them long life and happiness, and that health and prosperity would go with them wherever they went. (Cheers).

[The toast was accorded musical honours].

Mr. J. W. MCINTOSH, in responding, said when the Fellows placed him in the chair twelve months ago he recognised in that honour great responsibilities—responsibilities which he accepted with a certain amount of misgiving. That feeling, however, soon disappeared, because of the warm support and courtesy extended to him by the Fellows. In their expression of approval of his efforts to uphold the usefulness and dignity of the office he felt sufficiently rewarded. It had been a great pleasure to him to preside over the members of the Central Veterinary Society, and although reduced to the ranks again, he hoped he would be still able to give that support to the chair and to the Association which every member ought to give. (Hear, hear). He wished success to the new President, and offered his sincere thanks to the Fellows for their support and their forbearance, and to the office-bearers who assisted him in his efforts, he acknowledged himself profoundly indebted, and profoundly gratified. (Cheers).

Professor J. MACQUEEN, in proposing the toast of "The Ladies," said that he felt in a very peculiar position, because he did not remember ever having had to propose this toast before. He had very little experience of ladies, and might repeat the reply of the boy to his aunt when she said to him, "Teddy, don't you think you are getting rather too old to play with the girls?" "No, auntie, the older I get the better I like them." That was his experience, so far as it went. (Laughter). A lady advocate of women's rights, who got on a platform to make a speech, began by saying "Why am I here?"—a long pause—"Why was I born?"—another pause—and then a boy in the gallery said, "We give it up." (Laughter.) He did not know why he had been selected to propose that toast, but he would give an

indication of what he might have said if there had been more time. He was going back to the days of Adam. There was a great deal to be said about Adam. He was referring to Adam when he was working quietly on his allotment—(laughter)—and probably anticipating some of Mr. Lloyd George's reforms. Adam was ably seconded by Eve. Eve had her troubles no doubt, but she was a pioneer of hygienic clothing, and in the 20th century they were beginning to realise the importance of too much clothing. (Laughter.) In those days it was discovered that it was not good for man to be alone, and he supposed that that was the reason why the toast of "The Ladies" was now so frequently introduced. A distinguished and religious Frenchman had said that a beautiful woman was Hades to the soul, purgatory to the purse, and Paradise to the eyes. (Laughter.) He (the Frenchman) was not acquainted with veterinary ladies or he might have reversed the order of his estimate. (Cries of "Oh," and laughter.) There were many things he might have said about the ladies, but he could see that gentlemen present had had ample experience of the ladies themselves, and they would be able to form their own opinion and their own estimate. (Hear, hear, and laughter.) There was a certain responsibility attaching to the toast, though it was, perhaps, not the same sort of responsibility that appealed to the farm boy who was in the habit of receiving Sunday lessons from the farmer's wife. The farmer's wife asked him, "Tom, what is responsibility?" and after a deal of consideration the boy replied, "It is when my breeks are held up with one button and a pin." (Laughter.) He would ask all those present, gentlemen batchelors, bachelors, monogamists—(laughter)—misogamists, and polygamists (if any such were there), in drinking to that toast to make their practice fit the precept, and not to follow the lead of a certain alleged teetotaler. The teetotaler, he need hardly tell them, was a Scotsman—(laughter)—and it was noticed from his bearing and rubicund countenance that there might be good ground for suspecting that he was unfaithful to his pledge. The result was that the Timothy's of temperance made enquiries, they brought the old man before them and asked him if he ever indulged at all. "Na, na," he said, "What I do is to put a wee drop of whisky into the bottom of the tumbler just to warm it, but you ken I never drink down to the whisky." (Laughter.) He hoped that in response to the toast they would not imitate the old Scotsman, but would drink heartily to the ladies, who were their charming friends, and with the toast he coupled the name of a very charming lady, Mrs. John Willett, the wife of a prominent member of the Central Veterinary Society.

Mrs. JOHN WILLETT, in responding to the toast, said she received great enjoyment from such happy evenings, and only regretted that the Society did not ask the ladies more often. If the gentlemen would only arrange a ladies' night once in three months, the ladies would willingly accept the invitation, and, apart from that, they would know that their husbands went straight home. (Laughter.) She had heard several ladies wished to become veterinary surgeons. Personally, she preferred to be a veterinary surgeon's wife, and she was quite sure they could all help the profession a great deal in their own homes by assisting their husbands and brothers, because the ladies wished them to feel they were really their helpmates, and not merely women to look at. (Hear, hear.) On behalf of the ladies she thanked Prof. Macqueen for his kindness in proposing the toast, and for all the pretty things he had said about them, and also the gentlemen for the warm and hearty manner in which they had received it. (Loud cheers.)

Mr. W. R. DAVIS, in proposing the toast of "The Visitors," said that he hoped that the visitors had spent an enjoyable evening, and he assured them that their presence had added to the enjoyment of the members.

(Hear, hear.) Somebody had said that there were sentiments woven into the texture of our nature, some of them as old as the understanding itself, such as reverence and awe, and the religious feeling, but he thought hospitality might also be classed among those sentiments. (Hear, hear.) The demand for the satisfaction of that feeling of hospitality had been more than met by finding so many distinguished and fair visitors there that evening. (Cheers.) The sentiment of hospitality had, like other sentiments which were part of one's nature, been used as a cloak for crimes and cruelties. They had an example of that in their own country in Edward the Martyr, who, when offered a drink, had a knife stuck into him while quaffing it. He did not know whether Edward the Martyr was called a martyr on account of the way he died, but if all the men who died drinking were canonised, then there would be more saints than niches. He coupled with the toast the names of Dr. R. Leiper and Mr. Wooldridge.

Dr. R. T. LEIPER, in responding to the toast, thanked the Fellows sincerely for the very kind and generous hospitality which had been shown to the visitors that evening. There was an old saying that wine, women, and song made the heart glad, and he was quite sure that the hearts of their visitors were simply dancing with enjoyment. He felt he must allude to the loss the profession had recently sustained in the death of Mr. Hunting. Mr. Hunting was exceedingly kind to him years ago in helping him to get into touch with the veterinary profession, as Secretary of the National Association. The subjects of tropical medicine and veterinary science were very fortunate in each having had a personal leader. The whole modern movement of tropical medicine had been due to the personal inspiration of Sir Patrick Manson, and the veterinary profession had been equally fortunate in having Sir John M'Fadyean as their leader. Wherever he had gone in the tropics he had heard references to the inspiration of Sir John M'Fadyean in veterinary work. The visitors appreciated very heartily the hospitality which had been shown them. (Cheers.)

Mr. F. R. WOOLDRIDGE (brother of the President) who also responded to the toast, said he felt that he had been included in a previous toast. Someone called out for a cheer for "the little Wooldridges," and he thought that included him. (Laughter.) But as their President in his reply seemed to take it that it referred to the pug and the cat, he was not quite sure where he stood, and so far as he was concerned he had better therefore leave it alone. (Laughter.) He felt it a great honour to be present that evening and to see such a splendid gathering. He represented an entirely different phase of society from the veterinary or any other science which appealed rather to the body; he represented a profession which had to do more with the soul, the artistic profession. The artistic profession went further back than any of the other professions could possibly think of, over 30,000 years. In the British Museum it would be found that artists had given in their language some of the finest representations of animals in the world of the type which were then inhabiting the world—he spoke of the Stone Age with its most wonderful carvings on ivory and bone. They might think that art had nothing to do with veterinary science, but art had to do with everything in life. Without art the veterinary surgeon would not be able to exist as such, and he would not be able to get through his study without it, while his books depended upon the artist for illustrations. Again he thanked them for the very pleasant evening he had spent with them.

During the evening an excellent musical programme was rendered by Miss Bessie Jones, Miss Edith Estherley, Mr. Archie Anderson, Mr. Geo. Blackmore, and Mr. Thomas Noakes.

HUGH A. MACCORMACK Hon. Sec.

ANNUAL REPORT OF THE PUNJAB VETERINARY COLLEGE.—By COL. H. T. PEASE, Principal.

[ABSTRACT]

Col. H. T. Pease, C.I.E., was in charge of the office of Principal and Professor of Medicine during the year. Mr. S. H. Gaiger, the Professor of Sanitary Science, was granted an extension of leave on medical certificate, and was absent during the whole year. Mr. R. Branford was transferred to Hissar. Major G. K. Walker was appointed Professor of Sanitary Science in June, 1912.

Fifty-two students were admitted on the 20th April, 1912, and with five remanded formed the first year's class of fifty-seven.

There were fifty-nine students in the second, and sixty-six in the third year classes.

In June, 1912, six final year's students who had been remanded were examined and passed. Fifty-seven students appeared in the first year's examination, and fifty-four or 94.7 per cent. passed. Fifty-eight were examined in the second year's class, and 47 or 81.03 per cent. passed. Sixty-six students of the final year's class were examined by the Board of Examiners in April, and fifty-six or 81 per cent. obtained the diploma.

The results of the examinations are satisfactory, and show a considerable improvement over last year. The percentage of passes is high considering the very large classes which have to be taught.

Besides the ordinary work of teaching veterinary assistants, a class of dressers from the Transport Department was held during the summer vacation, and fifty men were trained.

A class for the training of farriers was also held, and twelve men were trained practically and passed the examination.

The demand for graduates is still very great, and though our classes are far too large, we are unable to meet it. The scheme put forward and sanctioned for providing means of increasing the number of graduates from this College is being reconsidered, but no decision has so far been arrived at. In the meantime we are keeping our classes at about sixty, which is too large.

The training in some of the subjects taught has been greatly hampered by lack of accommodation. The want of a dissecting room has again been very badly felt, and the results in the examination in this subject have not been at all satisfactory. The laboratory building has also not been extended, and the present accommodation is totally inadequate.

The Principal's and the translator's spare time has been occupied in re-writing the text-book on Equine Medicine, which is now in the press.

A new edition of "Principles of Horse Shoeing" has been published by them during the year.

I am glad to say that the prospects of veterinary assistants in the Transport Department have been materially improved and may now attract some men to that service.

His Honour has selected a site for the new College, and plans and estimates for the proposed buildings have been prepared and submitted to Government.

As usual, the staff have worked loyally and well, and I think take some pride in the progress of the institution. I am glad to say that Raja Ghulam Hussain Khan, one of our old teachers, has at last been rewarded for his service by the grant of the personal distinction of Khan Sahib.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders† (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered.
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
Gr. BRITAIN.													
Week ended Nov. 22	20		23				2	2	29	44	5	57	413
Corresponding week in	1912	6	6				3	7	41	64	14	49	785
	1911	19	22				5	10			8	41	731
	1910		28	28			3	11			14	43	373
Total for 47 weeks, 1913	510		562		1	23	135	325	2181	4302	163	2272	29059
Corresponding period in	1912	681	763		82	639	164	303	2594	5460	238	2672	36674
	1911	810	994		18	467	193	468			347	2232	27030
	1910		1318	1567	2	15	330	956			399	1360	12624

† Counties affected, animals attacked: Hertford 1, York, West Riding 1,

Board of Agriculture and Fisheries, Nov. 25, 1913.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders† (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever	
	Con-firm'd	Re-ported	Con-firm'd	Re-ported	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered.
IRELAND. Week ended Nov. 22	...	...	...	...	...	...	...	...	...	...	14	1	25
Corresponding Week in	1912	...	...	...	...	...	...	...	...	...	11	1	2
	1911	...	...	...	...	...	...	...	...	...	10	12	155
	1910	...	1	...	...	...	...	...	...	...	10	2	47
Total for 47 weeks, 1913	...	...	...	...	...	1	1	...	112	462	129	847	
Corresponding period in	1912	...	3	3	68	382	...	...	59	324	202	1633	
	1911	...	9	16	...	...	2	3	53	304	143	2344	
	1910	...	7	12	...	...	1	2	63	405	86	1967	

* These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Nov. 24, 1913

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Tuberculin at the Perth Sales.

"A feature of the sale was the fact that all the bull calves from the three expositors had been subjected to the tuberculin test, and the results were announced by the auctioneer in every case. In no instance, save perhaps one, could a re-acting calf be started above 25 gs., and the cases were rare in which prices at all in agreement with the merits of the animals, apart from the results of the test, were obtained."

"The cause of this significant change of front on the part of the Northern breeders is said to have been the results of last year's sales. It is currently reported that two of the highest-priced bull calves sold last year for export have not gone out of the country. They reacted to the test, and it was useless to ship them. . . . Hence the fact that almost all the bull calves sold on Tuesday were tested by Mr. Manuel, whose charts were handed over to the buyers when desired, and their results were announced in every case."—*The Scottish Farmer*.

The Hunting Memorial Fund.

Subscriptions Received up to 7 p.m., Nov. 26th.

	£	s.	d.
Previously acknowledged	42	10	6
Col. Chas. Rutherford, Salisbury	1	1	0
Mr. Wm. Roots, 12 Winchester St., S.E.	1	1	0
John F. Healy, Midleton, Cork	1	1	0
A. J. Sewell, 55 Elizabeth St., S.W.	1	1	0
Geo. Ed. King, Abingdon	1	1	0
J. H. Carter, Burnley	2	2	0
Percy Gregory, Tonbridge	10	6	
Wm. Freeman Barrett, Temple, E.C.	2	2	0
H. Blount Nixon, Haverhill, Suffolk	10	6	
Robt. Bryden, Seaham Harbour	5	5	0
Maj. E. B. Bartlett, Hampstead, N.W.	1	0	0
Mr. Chas. W. B. Sikes, Warwick	1	1	0
Maj. F. W. Wilson, Frimley Green	1	1	0
Capt. R. W. Mellard, R.A. Mess, Kildare	1	1	0
	£62	8	6

Messrs. Hughes & Young, Ltd., Patent Agents, 55, 56 Chancery Lane, W.C., announce:—"There has just been patented a reservoir pen provided with a tube adapted to contain a clinical thermometer."

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, Nov. 21

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Lieut. J. G. Coleman to be Capt. Dated Aug. 11th.

OBITUARY

GEO. WM. TENNANT, M.R.C.V.S., Newcastle-on-Tyne.
Graduated, Edin: July, 1882.

Mr. Tennant died on Nov. 24th from cirrhosis of the liver, ascites. Aged 56 years.

THE LATE SIR GEORGE BARHAM.

Sir George Barham died on Sunday, 16th inst., at Snape, Wadhurst, one of his estates, in the county of Sussex. Sir George Barham, or plain Mr. Geo. Barham, as he then was, first came into prominence in London

in 1865 about the time of the cattle plague. He was then a dairy keeper in the City, and London being threatened with a milk famine he set himself to import large quantities of milk into London from the country districts, and did much to develop country milk trade even in late years. The introduction of modern dairying in India was also the outcome of Sir George's public-spirited action in sending out, at his own expense, a Commission of experts, equipped with the most improved scientific and mechanical appliances, to give demonstrations in modern hygienic dairying methods. As a member of the Committee on Milk Standards in 1900 he issued a minority report, the essential features of which were adopted by the Board of Agriculture. Sir Geo. Barham took an active part in philanthropic work, and founded the Metropolitan Dairyman's Benevolent Institution. A self-made man, he started in the dairy business in a small way, and rose by his own energy and exertion, and as Chairman of the Dairy Supply Co., Ltd., and the Express Dairy Co., Ltd., he controlled two of the largest dairying companies in the Metropolis, and was a leading supporter of the British Dairy Farmers' Association, while on three or four occasions he presided at their annual conferences. He received in 1904 the well-deserved honour of knighthood for his services.—*N. B. A.*

Veterinary Societies—Addresses.**BORDER COUNTIES V.M.S.**

Pres: Mr. J. W. Hewson, M.R.C.V.S., Wigton

Hon. Sec. (pro tem.): Mr. F. W. Garnett, M.R.C.V.S., Dalegarth, Windermere

Meetings, Second Friday of Feb., June, and October

NORTH MIDLAND VETERINARY ASSOCIATION

Pres: Mr. F. L. Somerset, M.R.C.V.S., Chesterfield

Hon. Sec: Mr. J. S. Lloyd, F.R.C.V.S., Sheffield

GLASGOW V.M.S.

Pres. Principal McCall.

Hon. Sec. Mr. J. Gibson, 16 Overdale Gdns, Langside, Glas.

ROYAL VETERINARY COLLEGE V.M.A.

Pres: Prof. E. Brayley Reynolds.

Hon. Sec: Mr. B. Gorton, M.R.C.V.S. *Assist. Mr.* E. E. Jelbart

ASSOCIATION OF VETERINARY OFFICERS OF HEALTH

Pres: Mr. T. Douglas, M.R.C.V.S., Kilmarnock

Hon. Sec. & Treas. Mr. A. M. Trotter, M.R.C.V.S., Moore Street, Abattoir, Glasgow.

NATIONAL ASSOCIATION OF VETERINARY INSPECTORS

Pres: Mr. J. Abson, F.R.C.V.S., Sheffield

Hon. Sec: Mr. Trevor Spencer, M.R.C.V.S., Kettering

NATIONAL VETERINARY BENEVOLENT & MUTUAL DEFENCE SOCIETY.

Pres: Mr. W. A. Taylor, F.R.C.V.S., Brick-st, Manchester

Hon. Sec: Mr. G. H. Locke, M.R.C.V.S.

Grosvenor Street, Oxford-st., Manchester
Treas: Mr. J. B. Wolstenholme, F.R.C.V.S., Quay-street, Manchester

VICTORIA VETERINARY BENEVOLENT FUND.

Pres. Mr. R. C. Trigger, J.P., Newcastle, Staffs.

Hon. Sec. & Treas: Mr. W. Shipley, F.R.C.V.S.

South Town, Great Yarmouth

COLONIAL SOCIETIES (continued next page)**VETERINARY ASSOCIATION OF NEW SOUTH WALES**

Pres: Mr. S. T. D. Symons, M.R.C.V.S., Chief Insp. of Stock

V. Pres: Maj. A. P. Gribben, P.V.O., M.R.C.V.S.

Hon. Sec. & Treas: Mr. Max. Henry, M.R.C.V.S., B.V.Sc. (syd).
56 Bridge Street, Sydney

BRITISH COLUMBIA V.M.A.

Pres: Dr. Gibbons, M.R.C.V.S., Vancouver.

Hon. Pres: Dr. Hamilton, M.R.C.V.S., Victoria.

Sec., Treas., Registrar. Dr. T. Jagger, V.S., Vancouver.

NATIONAL VETERINARY ASSOCIATION

Past President: Mr. W. Woods, F.R.C.V.S., Wigan

Sec:

Assist. Sec: Mr. W. L. Harrison, F.R.C.V.S.,
11 Anchor Terrace, Southwark Bridge, S.E.
Treas: Prof. G. H. Wooldridge, F.R.C.V.S.,
Ryl. Vet. Coll., Camden Town N.W.

Northern Branch:

Pres. W. A. Taylor, (F) Brick Street, Manchester
Hon. Sec. A. W. Noël Pillers, (F)
74 Smithdown Lane, Liverpool
LANCASHIRE V.M.A.

Pres: Mr. G. H. Locke, M.R.C.V.S.,
Grosvenor-street, Manchester
Hon. Sec. Mr. J. W. Brittlebank, M.R.C.V.S.,
Town Hall, Manchester
Hon. Treas: Mr. E. H. Stent, M.R.C.V.S., Preston-st, Hulme
Meetings, 1st Thursday in April, June, Sept., & Dec.

LIVERPOOL UNIVERSITY V.M.S.
Pres: Mr. J. P. Heyes, F.R.C.V.S., Wigan
Hon. Sec: A. Walker, M.R.C.V.S., Mill Lane, West Derby
Pathological Sec: Mr. D. C. Matheson, F.R.C.V.S.
Meetings, May, July, October, January.

MIDLAND COUNTIES V.M.A.
Pres: Mr. J. Martin, M.R.C.V.S., Wellington, Salop
Hon. Sec: Mr. H. J. Dawes, F.R.C.V.S.,
Camden House, High-st., West Bromwich
Meetings, Second Tuesday, Wednesday, Thursday, and
Friday alternately in Feb., May, Aug. and Nov.

NORTH OF ENGLAND V.M.A.

Pres:
Hon. Sec: T. T. Jack, M.R.C.V.S., 3 Elmwood Ter, Sunderland
Meetings, Third Friday, Feb., May, Aug. and Nov.

NORTH WALES V.M.A.

Pres: Mr. Hugh Williams, M.R.C.V.S., Ty Croes
Hon. Sec. Mr. L. W. Wynn Lloyd, M.R.C.V.S., Carnarvon
Meetings, First Tuesday, March and September

SOUTH DURHAM AND NORTH YORKSHIRE V.M.A.

Pres: Mr. W. Awde, F.R.C.V.S., Stockton-on-Tees.
Hon. Sec. & Treas: Mr. J. H. Taylor, F.R.C.V.S.,
Grange Road, Darlington
Meetings, First Friday, Mar., June, Sept. and Dec.

YORKSHIRE VET. ASSOCIATION

Pres: Mr. J. Abson, F.R.C.V.S., Norfolk Street, Sheffield
Hon. Sec: Mr. J. Clarkson, M.R.C.V.S., Garforth, nr. Leeds
Hon. Treas: Mr. A. McCarmick, M.R.C.V.S.,
Kirkstall-road, Leeds

Southern Branch:

Pres. Sir Stewart Stockman, 4 Whitehall Place, S.W.
Sec. T. C. Toope, 34 High Street, Dover

CENTRAL V.S.

Pres. Prof. G. H. Wooldridge, R.V. Coll., Camden Town.
Hon. Sec: Mr. H. A. MacCormack, M.R.C.V.S.,
122 St. George's Avenue, Tufnell Park, N.
Meetings, First Thursday in each month, except August
and September, 10 Red Lion Square, Holborn, at 7 p.m.

EASTERN COUNTIES V.M.A.

Pres. Mr. F. B. O. Taylor, M.R.C.V.S., Weston Longueville,
Hon. Sec. & Treas: Mr. Sidney Smith, JUDR., M.R.C.V.S.,
37 High Street, Lowestoft
Meetings, Second Tuesday, Feb., July and Sept.

LINCOLNSHIRE AND DISTRICT V.M.S.

Pres. Mr. C. W. Townsend, F.R.C.V.S.,
Long Stanton, Cambridge
Hon. Sec. & Treas: Mr. Tom Hicks, M.R.C.V.S.,
Boston Road, Sleaford
Meetings, Second Thursday Feb., June, and October

ROYAL COUNTIES V.M.A.

Pres: Mr. David Wyllie, M.R.C.V.S., Tudor House, Staines
Hon. Sec. & Treas: Mr. G. P. Male, M.R.C.V.S., Reading
Meetings, Last Friday, Jan., April, July and Nov.

SOUTHERN COUNTIES V.S.

Pres: Mr. G. H. Livesey, M.R.C.V.S., Hove, Sussex
Hon. Sec: Mr. A. H. Archer, M.R.C.V.S., Southsea, Portsmouth
Hon. Treas: Mr. E. W. Baker, M.R.C.V.S., Wimborne
Meetings, Last Thursday, Mar., June and Sept.

SOUTH EASTERN V.A.

Pres. Mr. James Crowhurst, F.R.C.V.S., Canterbury
Hon. Sec. & Treas. Mr. Theo. C. Toope, M.R.C.V.S.,
34 High Street, Dover
Meeting, Second Wednesday in September, Ashford

WESTERN COUNTIES V.M.A.

Pres: Mr. C. E. Perry, F.R.C.V.S., Staple Hill, Bristol.
Hon. Sec. Mr. W. Ascott, M.R.C.V.S., Bideford
Hon. Treas: Mr. P. G. Bond, M.R.C.V.S., Plymouth
Meetings, Third Thursday, March, July and November

Irish Branch:

Pres. Mr. W. Watson, Municipal Buildings, Dublin
Sec. Mr. P. D. Reavy, Leafield, Bundoran, Co. Donegal

CENTRAL V.A. OF IRELAND.

Pres: Mr. B. P. J. Mahony, M.R.C.V.S., Maryborough
Hon. Sec. Mr. E. C. Winter, F.R.C.V.S., Queen-st., Limerick
Treas: Mr. J. F. Healy, M.R.C.V.S., Midleton

CONNAUGHT V.M.A.

Pres. Mr. D. Hamilton, M.R.C.V.S., Ballina
Hon. Sec. & Treas. Mr. A. J. Moffett, M.R.C.V.S., Galway

VET. MED. ASSN. OF IRELAND.

Pres: Mr. P. J. Howard, M.R.C.V.S., Ennis
Hon. Sec: J. J. O'Connor, M.R.C.V.S., R.V. Coll., Dublin
Hon. Treas: Prof. J. F. Craig, M.A., M.R.C.V.S.,
R.V. Coll., Dublin

NORTH OF IRELAND V.M.A.

Pres: Mr. J. A. Jordan, M.R.C.V.S., Belfast
Hon. Sec: Mr. J. Ewing Johnston, M.R.C.V.S., Belfast
Hon. Treas: Mr. J. A. Thompson, F.R.C.V.S., Lurgan

Scottish Branch:

Pres. Dr. O. Charnock Bradley, } Ryl. (Dick) V et.
Hon. Sec. Prof. A. Gofton, } Coll: Edinburgh

NORTH OF SCOTLAND V.M.S.

Pres: Mr. W. Marshall, M.R.C.V.S., Aberdeen
Hon. Sec. & Treas: Mr. G. Howie, M.R.C.V.S., Alford, Aberdeen
Meetings, Last Saturday in January and August

ROYAL SCOTTISH V.S.

Pres: Mr. Reid, M.R.C.V.S., Auchtermuchty.

SCOTTISH METROPOLITAN V.M.S.

Pres: Mr. J. Riddoch, M.R.C.V.S., Edinburgh
Hon. Sec. & Treas: Mr. Jas. Henderson, M.R.C.V.S.,
Public Health Dept., City Chambers, Edinburgh

WEST OF SCOTLAND V.M.A.

Pres: Prof. John R. McCall, M.R.C.V.S., Vety. Coll. Glasgow
Hon. Sec: Mr. J. F. Macintyre, M.R.C.V.S.,
19 Bank Street, Hillhead, Glasgow
Hon. Treas: Mr. Geo. W. Weir, M.R.C.V.S.,
88 Crookston Street, Glasgow
Meetings, Second Wednesday, May, Oct. and January.

COLONIAL SOCIETIES: (see preceding page)**CAPE OF GOOD HOPE V.M.S.**

Pres. Mr. J. D. Borthwick, M.R.C.V.S., Cape Town
Hon. Sec. & Treas. Mr. R. W. Paine, F.R.C.V.S.

CENTRAL CANADA V.A.

Hon. Sec: Mr. A. E. James, Ottawa
VET. ASSN. OF MANITOBA.
Pres: Dr. W. R. Taylor, Portage la Prairie
Hon. Sec. & Treas: Dr. F. Torrance, Winnipeg

NATAL VETERINARY MEDICAL ASSOCIATION.

Pres. Mr. F. J. Carless, M.R.C.V.S., Mooi River
Hon. Sec. & Treas. Mr. A. W. Shileston,
Vety. Research Laboratory, Pietermaritzburg

ONTARIO V.A.

Pres: Mr. J. H. Tennent, V.S., London, Ontario
Sec. & Treas: Mr. C. H. Sweetapple, V.S., Toronto, Ontario
TRANSVAAL V.M.A.

Pres: Mr. C. E. Gray, P.V.S., Box 134, Pretoria.
Hon. Sec: Mr. P. Conacher, V.S., Box 877, Johannesburg

THE VETERINARY RECORD

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PROFESSIONAL ASSOCIATIONS.

An item of news from abroad shows us how recent a growth the veterinary development of this country is, compared with that of some Continental ones. A few weeks ago the Society of Swiss Veterinary Surgeons celebrated its centenary, and, small as Switzerland is, its National Veterinary Association numbers 400 members.

No veterinary society in this country is anywhere near its centenary. Jubilees of local societies will be not uncommon before long, but hardly any man now on the Register will see his local society celebrate its centenary, and probably not one will see our "National" do likewise. It is no great exaggeration to say that our recognition of the value of professional associations is a growth of the last half-century, though no one who sees the present number and vigour of our societies would suppose so. We are making up for lost time.

One of the healthiest signs in our professional life to-day is the continuous development of our associations. Their recent union with the "National" should greatly increase their power, but it will be some time yet before the union is in full working order, and a great deal will depend upon what steps are taken to make it so. The local societies preserve their independence, and may be relied upon to lose neither vitality nor utility. But to bring the larger "branches" and the whole body of the "National" to their full possible measure of utility will require energy and discretion combined.

SOME SECONDARY EFFECTS OF THE TUBERCULOSIS ORDER.

Indirectly, the Tuberculosis Order may exercise a considerable educative effect amongst clinicians. It has brought the centrifuge and the oil immersion lens into frequent use in many practices: and this may lead to a much more general recourse to high-power microscopy than has yet been common amongst us. Again, the Tuberculosis Order will make some practitioners more minute and thorough in their clinical examinations than heretofore—as, for instance, in auscultation. Auscultation of the lungs in the larger animals has been much neglected by clinicians, simply because many of them doubt its reliability. Most of these, under the Tuberculosis Order, will give it a new and more careful trial. The whole effect of the Order will tend to improve and refine our everyday methods of diagnosis: and the improvement will by no means be confined to tuberculosis. It is too soon yet to expect much apparent evidence that this is taking place, but we do expect to see such evidence before very long.

ANTI-TETANIC SERUM.

By J. P. ISHERWOOD, M.R.C.V.S., Blyth.

Seeing reports of several cases of tetanus in last week's *Veterinary Record*, in which anti-tetanic serum was used as a prophylactic and otherwise. I thought this case I am recording might interest your readers.

On Saturday, Oct. 4th, I was asked to examine a bay draught mare, six years old and about 16.3 h.h. The mare was working at the time—taking a load of hay into the town. Apart from a slightly elevated temperature and a quickened pulse, she did not appear to have very much the matter with her, so I prescribed a fever draught.

On the Wednesday following, the owner's son called on me and told me the mare was not going on as they would like, and asked me to see her. He said she was constantly twitching her tail and seemed stiff all over.

I went up at once, and found her in the condition stated: the muscles all over the body were pretty rigid, the tail constantly twitching, and when backed—which was accomplished with great difficulty—this symptom was intensified, and the tail assumed the horizontal position.

Our attempts to administer a physic ball were utterly futile, as it brought on a violent spasm every time I tried to get hold of her tongue, and she nearly ran us down. The head being thrown up, with the membrana nictitans shot over the eye, almost completely covering it.

Fortunately I had one dose of Parke, Davis and Co.'s antitetanic serum at home, so I promptly went for it, and gave her the full dose hypodermically. I telegraphed for four more doses that night, received them next morning, and gave her a full dose (3000 units) daily, and three more doses after that, eight altogether; the last doses I divided into two, and injected one in the morning and the other at night. At the end of which time the tetanic symptoms were fast disappearing, and the mare nearly all right, though she did not work for three weeks.

The mode of entry of the germs was undoubtedly by a wound about the size of a penny when I saw it, though it had been larger—situated just behind the left ear. This was *very sensitive* to the touch at first, but after each injection it became less so, and after the tenth day she offered no resistance when it was dressed. The dressing used was a fairly strong lysol solution.

I may say the trismus was not a well-marked symptom in this particular case, and she managed to sustain herself on mashes, and even hay, during the whole time.

We were fortunate in getting a well darkened loose-box, well away from all noise, and she was only visited by one attendant.

In recording this particular case, one must remember we had almost everything in our favour. Firstly, the sub-acute character of the disease. Secondly, the ability to take nourishment. Thirdly, the evident potent action of the serum; and fourthly, the very favourable surroundings.

As a rule we are called in when our unfortunate patients are *in extremis*—or next door to it, and no serum, however scientifically prepared, can be of any use.

In conclusion, I may state that with the exception of mag. sulph. powders given night and morning, she received no other medicine than the anti-tetanic serum.

A CURIOUS ACCIDENT.

A large retriever which is very fond of retrieving was out with the footman, and a portion of an old ash walking stick, about 18 inches to 2 feet in length, with a crook handle, was thrown for the dog to fetch. All at once while running with the stick in his mouth the stick disappeared down the dog's neck with the exception of the handle. The footman seized the handle and with some difficulty pulled it away. There was some blood from the mouth, but he seemed otherwise little the worse for the mishap. Nothing apparently troubled him for about eight days, when he appeared very ill, showing symptoms of rigors and general disturbance, with loss of appetite and a temperature of 104.

On examining the mouth a large ulcerated wound on the left side of the tongue was found, and a large swelling near the situation of the upper part of the postea spinatus muscle. This proved to be a kind of cyst which was drained and syringed, and the dog made a rapid recovery.

The crook handle must have caught in the ground or a tuft of grass whilst he was running, and the impetus have been so great that the other end (somewhat pointed) was driven down under the tongue and through the cervical muscles to the shoulders. W. W.

A PUZZLE IN LAMENESS.

On Nov. 3rd I got a wire "come and see hunter lame." That afternoon I called and saw the horse, a six-year-old light hunter gelding, the property of a nobleman. I found him in his box quite comfortable and happy. While I stood to watch him for some minutes the groom informed me that the horse was taken off grass in September, and had been getting quiet exercise; that he started to go lame in front a week ago, and that he was sure the horse was getting "that navicular." I asked him to put a halter on and get the horse outside. The horse walked out perfectly, and to my surprise trotted perfectly sound. After trotting up and down several times he was still sound. The groom

said, "he was a cripple yesterday." I told the groom I could not see any sign of lameness, nor anything wrong to cause lameness. I advised that the horse get a few hours work next day and let me know again how he was.

In a few days I got a note that the horse was still lame. I called again, got the horse pulled out, and again found he went perfectly sound. I decided to have a ride and ordered the saddle on. Immediately the saddle was fixed the horse walked dead lame on the off fore.

I got on his back and he was almost paralyzed in the off-fore at a walk.

I took him to a paddock and found he could gallop sound, trot fairly sound, but a cripple at a walk.

I had the saddle removed, and again, to my surprise, the horse went absolutely sound at once. I put him in the lunge with a long rope, and had him trotted and galloped round and round in each direction, without any sign of lameness.

I got the saddle on again, and he at once went dead lame. Then I put up the groom without a saddle, and he walked dead lame, trotted not so lame, and galloped sound.

There is no sign of pain or tenderness on any part of the back, shoulder, or limb, and the horse has not been lame before. I know him over a year.

I concluded there was some nerve trouble (safe opinion) in the shoulder region. I advised hot bathing, massage, and absolute rest.

I have seen the horse twice since, and he goes perfectly sound till the slightest weight gets on his back, when he at once walks lame, though he is not much lame in trot, and can gallop sound.

I confess I am completely puzzled, and would be grateful for some help from your readers as to what is really wrong. I relate the case because it is a peculiar and rare one, and under ordinary circumstances one does not dream of having a horse ridden to see if he is lame.

Ennis.

P. J. HOWARD.

ABSTRACTS FROM FOREIGN JOURNALS.

LARYNGEAL TUBERCULOSIS IN THE OX.

Prof. Schlegel reports (*Zeitschr. für Tiermedizin*) a number of cases of bovine laryngeal tuberculosis, some of which were associated with open pulmonary tuberculosis. His observations have led him to the conclusion that tuberculous growths of the laryngeal mucous membrane often penetrate outwards between the laryngeal cartilages into the subcutis, so that the tuberculous new growths, ranging from the size of a bean to that of a chestnut, can be recognised in the living animal by direct palpation of the outer surfaces of the larynx. Schlegel regards this fact as important in practice.

The author also describes a case of laryngeal tuberculosis in a cow, associated with tuberculous ulceration of the trachea. In addition to laryngeal and pulmonary tuberculosis, ulcers ranging from the size of a pea to that of a shilling were found in

the mucous membrane of the trachea. Tubercle bacilli were found to be fairly numerous in these ulcers, and also in one upon the larynx.

For demonstrating the open nature of the lesions during life in these cases, Schlegel thinks that the best method is the now well-known one of introducing a tampon on a wire through a canula into the trachea.—(*Berliner Tier. Woch.*)

THE SALE OF FROZEN MEAT IN SWITZERLAND.

A decree of the Council of State (April 8th, 1913) regulating the sale of frozen meat in Switzerland, has superseded that of May 31, 1912. The following are amongst its provisions.

Art. 2. Requests for authority to sell frozen meats must be addressed to the Department of the Interior and of Agriculture. The authorisations are only granted temporarily, and will be withdrawn in the case of non-observance of the regulations.

Art. 4. Frozen meats must not be placed upon the market before being slowly thawed. With that object they should pass from the freezing chamber into the thawing chamber, and must not remain in the latter for more than five or six days.

Art. 5. Frozen meats should be sold in special places. Their sale, however, will be allowed in butchers' shops selling fresh meat, upon condition that the places permit a distinct exposition and a completely separate manipulation of the two qualities of meat. All the butcher's shops selling frozen meat should be provided with a cold, dry chamber.

Art. 6. A table of the prices of the different pieces of frozen meat shall be put well in sight in each place of sale.

Art. 8. The fee for inspection is 0.10 fr. for each 25 kilogrammes or fraction of 25 kilogrammes. (25 kilogrammes = about 55 lbs.—*L'Hygiene de la Viande et du Lait.*)

W. R. C.

MIDLAND COUNTIES VETERINARY MEDICAL ASSOCIATION.

The quarterly meeting was held at the George Hotel, Northampton, on Thursday, November 13th. Mr. J. Martin, of Wellington, Salop, President of the Association, took the chair, and there were also present Messrs. A. B. Forsyth, Cannock; A. Over, Rugby; H. S. Reynolds, Daventry; W. H. Brown, S. J. Marriott, Northampton; E. Parks, J. Bainbridge, Wellingborough; J. M. Whyte, Tenbury; D. Forwell, Towcester; W. W. Grasby, Daventry; Brennan DeVine, Birmingham; P. Evershed, F. H. Gibbings, Nottingham; G. Wartnaby, Burton-on-Trent; F. L. Gooch, Stamford; W. H. Brooke, Handsworth; J. J. Burchnall, Barrow-on-Soar; and the Hon. Sec. (Mr. H. J. Dawes, West Bromwich.)

The visitors present were Dr. Percival, Northampton; Mr. A. W. Noel Pillers, Liverpool; and Mr. W. H. Brown, South Kensington.

Apologies for unavoidable absence were received from Profs. McCall, Penberthy, Hobday, Messrs. L. W. Heelis, R. C. Trigger, J. W. Coe, T. Slipper, Shipley, Clifford, Burndred, R. Hughes (Oswestry), H. B. Hiles, R. Cock-

burn, C. E. Dayus, F. V. Steward (Hereford), W. S. Carless (Worcester), T. Chambers (Dudley), E. Ringer, J. Martin, Jun. (Newport), J. R. Carless (Shrewsbury), E. H. Woodcock, G. Smith (Tunstall), J. Malcolm, H. Thackeray, Crofts, and others.

The minutes of the previous meeting were confirmed. *New Member.*—Mr. EDWIN HALL, of Wellington, Salop, on the motion of the President, seconded by Mr. DeVine, elected to membership of the Association.

Letters of Resignation.—The Hon. Sec. announced the receipt of letters from Mr. W. T. Brooke, of Warwick, and Mr. W. G. Burndred, of Hanley, tendering their resignation from the Association. Mr. Brooke gave as his reason the fact that he was shortly going abroad, and his resignation was accepted with regret. In the case of Mr. Burndred, it was ordered that the Hon. Sec. write to him with a view to inducing him to reconsider his decision.

Report of the Council.—The Hon. Sec. presented a report from the Council of the Association, which met prior to the general meeting. It was presided over by Mr. Martin, and there were also present Messrs. Burchnall, Brooke, Gooch, DeVine, Wartnaby, A. Over, Grasby, and the Hon. Sec. The Hon. Sec. announced to the Council that Professor Reynolds had promised, through Mr. Grasby, to give a demonstration at the next meeting of the Association, which being the annual meeting will take place in Birmingham, of some operations upon the dog. It was recommended that the local arrangements be left in the hands of a small committee, consisting of Mr. DeVine, Mr. Malcolm, and the Hon. Secretary.

The question of the payment of the affiliation fee of 1/- per member to the National Veterinary Association was discussed, and it was recommended that the Treasurer be instructed to pay the fee in respect of all members whose subscriptions have been received up to the end of June in each year, and the balance at the end of each financial year.

Mr. GIBBINGS moved that the report of the Council, together with the recommendations contained therein, be approved. This was seconded by Mr. Over and carried unanimously.

THE LATE MR. WILLIAM HUNTING.

The Hon. Sec. read a letter he had received from Mr. J. Malcolm relating to the lamentable death of Mr. William Hunting, and stating that he very much regretted his inability to be present to testify personally to the great loss which the profession had sustained by the death of Mr. William Hunting. Mr. Malcolm's words so admirably expressed the views of all of them that he (the Hon. Sec.) would like them recorded on the minutes of this meeting. Mr. Malcolm's letter was as follows:—

"Since the last meeting of our Association the veterinary profession has to mourn the loss of William Hunting, and I feel sure the Association will to-day send a resolution of our deep sympathy and condolence to his relatives. I regret exceedingly I cannot be with you to join in that resolution. He was one of our most honoured honorary members, one whom we all liked and loved, and in a sense idolised. And no wonder, for he was not only a great veterinarian but he was a unique personality, a rare being whom it did one and all good to know. He loved his profession intensely, and spent himself freely and without stint or thought of self in its well being. Throughout his professional life he was one of our real teachers. Always a searcher after truth, he kept on open mind on all debateable points, and there was nothing he appreciated more than an open mind upon unsettled subjects in others. The possession of this faculty he always attributed to the influence of his teacher, John Gamgee, but whatever Gamgee's influence was, there is no question that Hunting inherently

possessed this qualification. His writings in *The Record* brought weekly instruction, interest, and pleasure to all his readers, and all know how he travelled the country from end to end to attend veterinary meetings to lecture upon and discuss matters of interest to the members. And we can remember how we benefited by his illuminating talk, keen insight, logical deductions, and terse, explicit, lucid exposition of the subject under discussion. Literally a young man all his life, he revelled in meeting a young professional enthusiast, and discussing with him matters that seemed of vital interest or prime importance. In this way many of our best members, particularly in their early years, have been indebted to him for the valuable information and advice he so delighted to give. I shall never forget the first day, now over thirty years ago, I spent in his company. Having been three years with his father, I knew his own people and many of his early friends, both personal and professional. When I left him that night I thought him in many senses the most remarkable man I had met. And when acting as secretary to the Hunting Testimonial Fund many of the letters I received showed that I was not alone in this view. These letters also revealed that he was held in the most affectionate regard by the profession."

The HON. SEC. (Mr. H. J. Dawes) said that Mr. Hunting was elected in the year 1888 as an honorary associate, and seven years later, namely in 1895, he served the office of President. A survey of the minutes of their meetings since Mr. Hunting had belonged to the Association showed how great a part he had played in their deliberations. He was very regular in his attendance for a number of years and read them several papers. A paper by Mr. Hunting always drew a large gathering, whilst his contributions to the discussion of papers read by other members were invariably a source of instruction and pleasure. If Mr. Hunting was at variance with the views expressed by an essayist, he expressed his own opposite opinion in a kind and sympathetic manner, which was one of his noblest characteristics. But in every sense of the term Mr. Hunting was a splendid man, and, as Mr. Malcolm had suggested, he possessed a personality which made him absolutely unique in the veterinary profession, not only respected but beloved by all who knew him. He (the speaker) remembered him as an examiner of students, and the more than friendly interest he always manifested in the work of young men just embarking upon their professional career, would be recalled by many of them. Now that he was gone, they had to mourn the loss of a brilliant practitioner, a ready writer, a deep thinker, and a man who from all standpoints had shed light and lustre on their calling. Such a man would be greatly missed, and his place in the councils of the profession would probably never be re-filled. He moved that a letter expressing the deep and abiding sympathy of every member of this Association be forwarded to his sorrowing relatives.

Mr. GOOCH said he took a melancholy satisfaction in seconding the motion. He was more than shocked to hear of Mr. Hunting's death, because it was only a few days before his last illness that he met him at a meeting of the National, when he was as bright and cheery as ever. They had lost in Mr. Hunting one whom they were proud to call a brother practitioner, and one who, as a clinician, was probably without an equal.

Mr. GIBBINGS, Mr. WARTNABY, and others having briefly endorsed the remarks of the previous speakers, the motion was carried *sub silentio*.

THE LATE MR. J. THOMSON, OF COVENTRY.

The HON. SEC. said he had the mournful duty to announce the death of yet another member of the Association, in the person of their esteemed friend and colleague, Mr. J. Thomson, of Coventry. They ought not

to allow the occasion to pass without recording their sense of the loss which the Association and the profession generally had sustained by the removal of a man of Mr. Thomson's high character, both as a practitioner and as a man of the world. He begged to move that Mrs. Thomson and family be informed by letter of the genuine regret they all felt at his decease, and of their sympathy with them in their bereavement.

Mr. A. OVER seconded the motion, which was agreed to.

THE INTERNATIONAL VETERINARY CONGRESS.

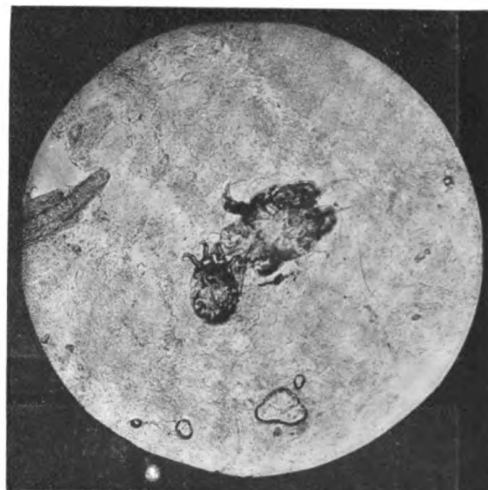
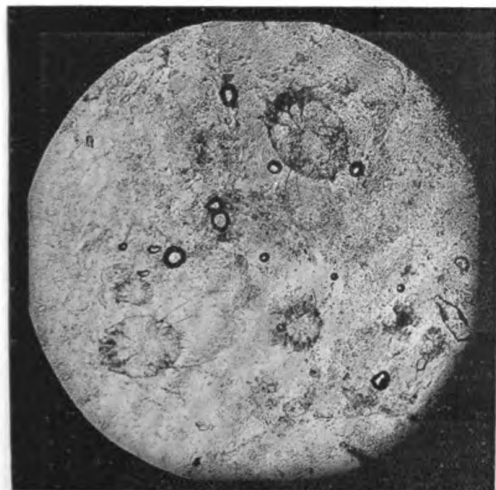
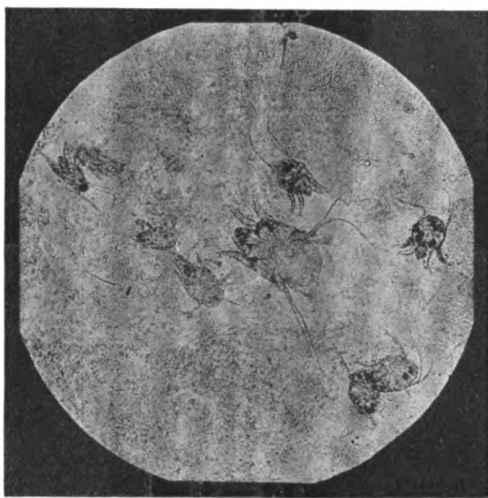
The HON. SEC. obtained leave to refer to this matter. He was sorry to say the appeal to members of the profession for financial support had not been as satisfactory as could have been wished. In a fortnight's time, he would be sending his list up to the Treasurer, and there were still a good many members whose names did not appear in it. Since the last meeting, he had received promises of a further £15, which brought up the total amount from members of this Association to about £370. He need scarcely remind them again that when the Congress met in other countries the governments of those countries made the local committees handsome subsidies. We in England receive no help or practically none from the State, and have to provide hospitality to the foreign delegates at our own expense. For the credit of the profession, we must see that in England the delegates are as well entertained as they were elsewhere. At present 30 or 35 members of the Association had not replied.

SOME ASPECTS OF MANGE IN HORSES.

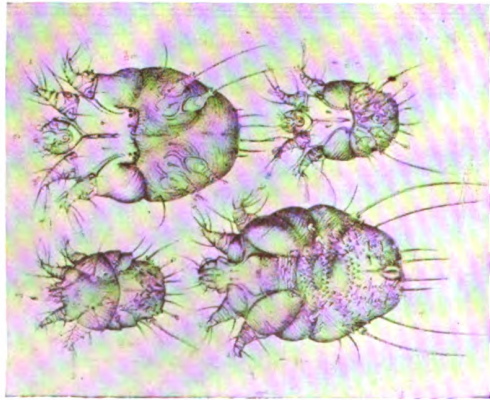
By A. W. NOËL PILLERS, F.R.C.V.S.

Mr. Chairman and gentlemen,—Last year, when I had the pleasure of reading before you a paper upon "The methods whereby parasites produce their injurious effects," great interest was shown concerning the many aspects of equine mange, and I promised at some future date, to offer for discussion some remarks upon that subject. I am now pleased to be able to fulfil that promise, confining my attention to the horse alone. Our standard text books, such as Neumann's "Parasites and Parasitic Diseases of the Domesticated Animals," Hutyra's and Marek's "Special Pathology," Law's "Veterinary Medicine," and Friedberger and Fröhner's "Veterinary Pathology," all contain so much information on the subject that I feel any remarks of mine will only be of the nature of a "tabloid extract" of the material contained therein. Our periodicals during the last few years have contained frequent references to the manges. In March, 1909, Mr. H. C. Harrison gave a short paper before the Lancashire Veterinary Medical Association on the Parasitic (Lancashire) Mange Order of 1908, and another paper was read by Mr. R. Bennett before the Central Veterinary Society in May, 1911. The most important contributions, however, have been by Sir Stewart Stockman and Mr. H. A. Berry in the Annual Reports of the Board of Agriculture and Fisheries for 1906 to 1909, and in *The Journal of Comparative Pathology and Therapeutics*. These latter papers refer to sheep scab, but they are of general interest with regard to certain of the mange mites. "The treatment of parasitic mange of the horse" was discussed in a short paper by myself before the Yorkshire Veterinary Medical Society on April 25th this year.

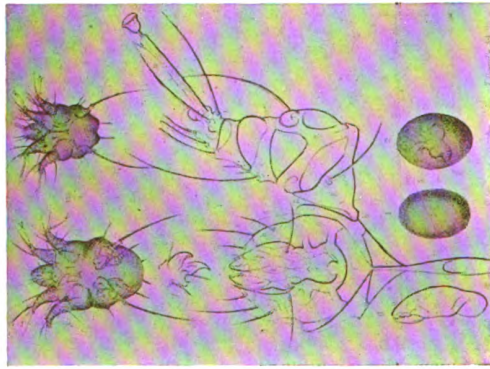
With this amount of literature before us, I do not propose to discuss the diseases in a systematic manner, but to mention only certain important interesting aspects which they present, some of which I shall be able to bring out better by means of lantern slides and specimens. We shall therefore consider briefly: (1) the position of the mange mites in nature and their syno-



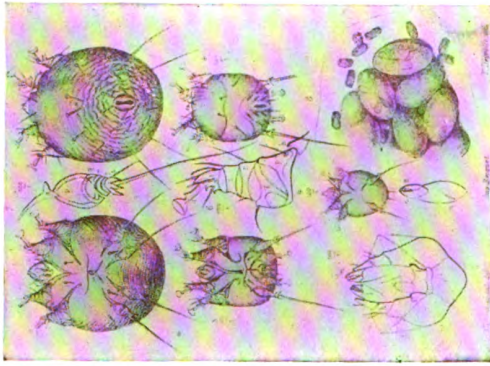
THREE SPECIMENS TAKEN IN ACTUAL DIAGNOSIS (*Pillers*).



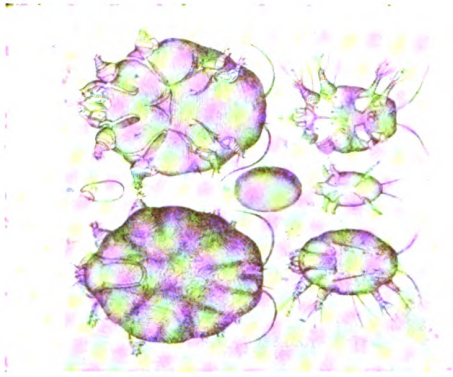
1. *Sarcoptes Scabiei*.—*Top left*, male, dorsal; *Right*, male ventral; dorsal; *Right*, male, ventral.



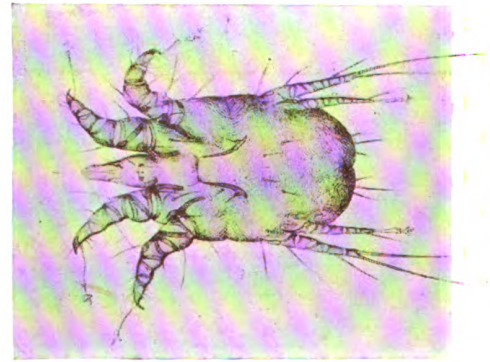
2. *S. Scabiei*.—Egg: egg with embryo; hexapod larva; octopod larva; rostrum and first leg: mandible.



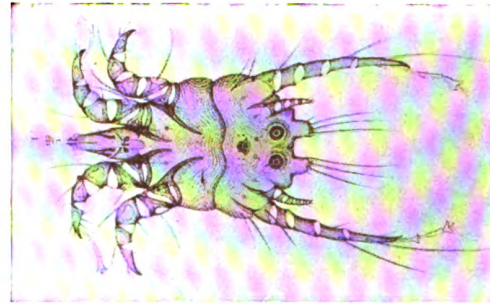
3. *S. notoedres*—var. *muris*.—Oviparous female, dorsal; dorsal; male, ventral; dorsal: a hind leg; a fore leg; rostrum; hexapod larva; portion of nest, eggs in various stages.



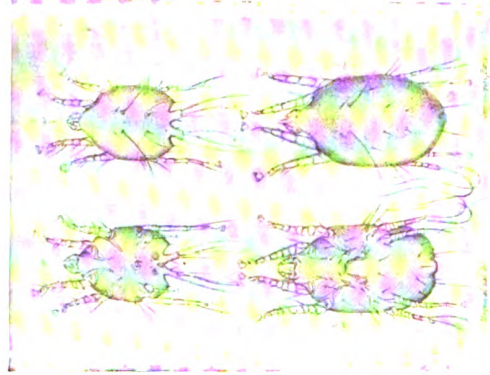
4. *S. Mutans*.—Oviparous female, dorsal; dorsal; male, dorsal; ventral; ventral: egg; hexapod larva.



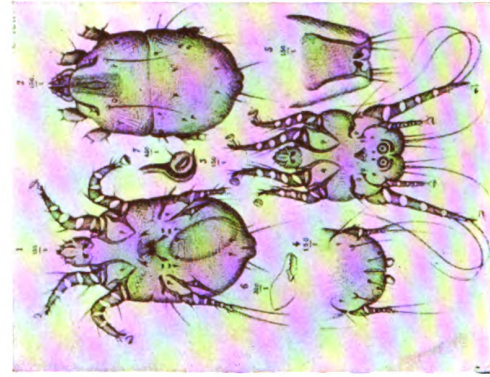
5. *Psoroptes longirostris*—var. *equi*. Oviparous female, ventral.



6. *P. longirostris*—Male, ventral.



7. *Chorioptes spathiferus*.—Male, ventral; dorsal; oviparous female, ventral; dorsal.



8. *Chorioptes ecaudatus*.—Oviparous female, dorsal; dorsal; male, ventral; dorsal: dorsal; male, ventral; posterior extremities of young female: of male, dorsal.

nymy; (2) the characteristics of the various genera; (3) a rough outline of their life histories; (4) their vitality, and go more fully into (5) the degree of parasitism; (6) seasonal occurrence; (7) parts affected; (8) diagnosis; and (9) principles of treatment.

The position of the mange mites in nature and their synonymy. Characters of the sub-kingdom, class, order, and family here given.

Kingdom	Animalia
Sub-Kingdom	Arthropoda
Class	Arachnida
Order	Acarina
Family	Sarcoptidae
Sub-Family	Sarcoptinae
Genera	
1. Sarcoptes	4. Psoroptes
2. Notoedres	5. Chorioptes
3. Cnemidocoptes	6. Otodectes

We recognise one species of each of three genera as occurring on the horse. Thus, we have sarcoptic, psoroptic, and chorioptic mange. The parasites are known by the following names:—

The sarcopt:

Sarcoptes scabiei var *equi*, Linne, 1758.
Acarus scabiei, Linne, 1758.
Sarcoptes equi, Gerlach, 1857.

The genus *Sarcoptes* was founded by Latreille, 1806.

The psoropt:

Psoroptes equi var *equi*, Hering, 1838.
Sarcoptes equi, Hering, 1838.
Dermacoptes communis, Fürstenburg, 1861.
Dermatodectes communis, Verheyden, 1862.
Psoroptes longirostris var *equi*, Megnin.
Psoroptes communis, var *equi*, Railliet, 1885.

The genus *Psoroptes* was created by Gervais in 1841; *Dermatodectes* by Gerlach in 1857; and *Dermacoptes* by Fürstenburg in 1861.

The choriopt:

Chorioptes bovis var *equi*, Hering, 1845.
Sarcoptes bovis, Hering, 1845.
Symbiotes equi, Gerlach, 1857.
Chorioptes caprae, Gervais and Beneden, 1859.
Dermatophagus symbiotes, Verheyden, 1862.
Symbiotes spathiferus, Megnin, 1872.
Chorioptes symbiotes var *equi*, Railliet, 1885.

The genus *Chorioptes* was found by Gervais and Beneden in 1859, *Symbiotes*, by Gerlach, 1857, and *Dermatophagus*, by Fürstenburg, 1861.

Anterior two pairs of legs marginal. Posterior two pairs of legs sub-abdominal. Males with no copulatory suckers or abdominal lobes.

Ambulacral suckers with a short pedicle on 1st and 2nd pairs of legs in both sexes, often on 4th in males. Parasitic in mammals.

Legs as above. Copulatory suckers may be present.

Ambulacral suckers on all legs in males. None in females. Anus terminal. Ovoviviparous. Parasitic on birds.

All legs marginal. Male bilobed extremity to abdomen. Copulatory suckers present. Parasitic on mammals.

Ambulacral suckers on the 1st, 2nd, and 3rd pairs of legs in male, and 1st, 2nd, and 4th in female. Long pedicle.

Ambulacral suckers on all legs in male. Short pedicle.

Anus terminal. *Sarcoptes*.

Anus dorsal. *Notoedres*.

(Mutans) *Cnemidocoptes*.

Psoroptes.

Chorioptes.

Otodectes.

(Illustrations from *Parasites Articulés*, Megnin).

The sarcopt is universally recognised as *Sarcoptes scabiei* *equi* or var *equi*; on grounds of priority, the psoropt should be known as *Psoroptes equi* var *equi*, but in this country it is usually designated *Psoroptes communis* *equi* or var *equi*.

For reasons of priority also the choriopt is known as *Chorioptes bovis* var *equi*, often, however, it goes by the name of *Chorioptes symbiotes* *equi* or var *equi*.

Rough Outline of the Life Histories.

[This slide shows at a glance the recognised life history of a psoropt, and from it the variations in the case of the sarcopt and choriopt can easily be pictured.]

Life History of Psoroptes.

Egg.	2—4 days (6—11)
Larva. (hexapod).	4 days
Nymph (octopod).	4 days.
Adult.	{ male. pubescent female.
	Ovigerous female.
Egg.	{ 7—30 during 8 days. 2—3 per day.

Characteristics of the various genera: The chief points which distinguish the various genera are shown in scheme at foot of page.

Inasmuch as we are only considering a single member of each of the genera, *Sarcoptes*, *Psoroptes*, and *Chorioptes*, those characters will be sufficient to distinguish the three species.

Vitality. From an epizootiological point of view, the time that a parasite is capable of living apart from its host is important. Gerlach obtained results which agree closely with those of to-day.

	<i>Sarcoptes</i> .	<i>Psoroptes</i> .	<i>Chorioptes</i> .
In crusts in glass dishes.	5 to 6	10 to 14	10 to 12 days.
In inhabited stables	12 to 14	20 to 30	40 to 50 "
On damp skin	24 to 25	42 to 45	— "

The degree of activity shown at the longer period in each case is often such as to be impossible for the parasite to regain life and become pathogenic. After a month, with thorough disinfection, harness, utensils, and stabling should possess little danger of infection. The resistance of the ovum is weak, and many do not hatch when again placed under favourable conditions, if the host has been left. Ideal conditions for incubation are entirely absent, apart from animals in habitations. We hear a great deal concerning "mange-ridden wood work," and stables which have "harboured" the disease for years, but animals carrying the parasite without showing any symptoms are the real culprits—at least this is so in the psoroptic form.

Degree of Parasitism. There is no doubt that the three species now under consideration are obligatory parasites. There are, however, many interesting points with regard to the degree of parasitism and injurious effects produced by mange mites. On account of the boring habit of the ovigerous female sarcopt, this mite always produces disease, but with the psoropt and choriopt the case is different. It seems probable that many recurrent outbreaks, recurrent attacks on the same individual, carter's who "always" have an affected horse, sudden appearance of the disease in resting horses, and seasonable prevalence of these two diseases, may be explained in terms of a varying degree of parasitism. In the working horse, one can never exclude the chances of daily infection. It is often reduced to a minimum, but how is one to explain the yearly manifestation of psoroptic mange on one and the same animal in a stud to the exclusion of others—and this although the affected animal may have been treated?

We have a similar state of affairs in the case of the large headed louse (*Hemattopinus maceroccephalus*). During certain months of the year, one may not be able to find a single louse on an affected animal's body, yet later on the host becomes swarmed. In such cases ova and adults can be found in the depths of the long hair of the legs. The next year's crop can be nearly ruined by treatment whilst there are no signs of lice on the body. I suggest that the psoropt often exists more or less as a commensal in the mane and tail. This is no doubt governed by a series of conditions, the removal of any of which causes the mite to produce lesions characteristic of the disease. An allied mite, *Cyrtolides nudus* or *Cyrtolidae*, often exists in the air spaces of birds without producing lesions, yet at other times it gives rise to the greatest inconvenience. A very like state of affairs exists with many other parasites, which only reproduce in their numbers under certain reduced conditions of their hosts.

Coming closer to the mange mites, there is a rarely recorded condition seen in thick-legged cart horses where an accumulation of fine, cellular detritus contains innumerable choriopts; there appears to be no stamping or other symptoms. In many cases of circumscribed psoroptic mange, such as those with a small patch on the withers or croup, I have found the parasite in the tail. It is, I think, possible for a horse whose skin is in the highest state of activity to harbour the parasite without showing symptoms. More likely is this if the weather remains mild. Certain factors break down this immunity. Thus, an unclean carter allows the parasite to increase and spread over the body, and if he be unfortunate enough to get three horses following with commensal mites on them, they will surely soon produce lesions. Yearly outbreaks on the same animal are explained in the same way. If treatment had been absolute all the mites would have been killed, but it is difficult to get a man to dress the mane and tail thoroughly, in fact it is often missed. Further, there is the protecting action of unremoved epithelial scabs to be taken into consideration, especially those of old lesions, the tail and mane. Recurrent outbreaks are

due to fresh infections, or more often to not applying so great attention to in-contacts as is really necessary, or to not dressing them at all, as they appear so spotless and far away from the affected animal.

Seasonal Occurrence. The seasonal variation in the prevalence of some manges, has long been well known. The number of reported cases gradually rises during the advent of colder weather (October), and continues so doing until about February, when there is a gradual decline. In the summer months the disease is at its lowest. These remarks apply equally to the psoroptic and chorioptic forms, but sarcoptic mange of the horse does not appear to be quite so seasonal.

Sir Stewart Stockman says with regard to sheep scab (*Psoroptes communis ovis*) that there are several explanations of the decline that takes place during spring and summer. They are (a) shearing, (b) the sheep are not crowded together as in colder weather, (c) improvement in bodily conditions with advent of new grass, (d) the decline in movement (markets, etc.), and (e) summer dipping. He regards none of these as being fully satisfactory, and moreover, generally speaking, none of them strictly apply to town horses.

Mr. A. W. Anstruther, in the 1912 Report of the Proceedings under the Diseases of Animals Acts, says of parasitic mange "that considerably more than one half of the outbreaks reported occurred in the first three months of the year, and that during the summer months the prevalence of the disease declined, to rise again as winter approached. It is not a matter for surprise that this should be the case, as the conditions under which the horses are kept in the winter months are clearly calculated to bring the existence of mange to light."

He does not say what these conditions are, or whether they are different in town and country. The seasonal prevalence is very marked in towns, and the only different conditions, so far as I have been able to observe are, the presence of a long coat and lower atmospheric temperature.

One of the surest ways of preventing psoroptic mange is by clipping susceptible animals all over. When it is remembered that in summer animals may harbour the parasite without showing any symptoms, that the disease tends to disappear on its own with the advent of warm weather, and that clipping is a good preventive, it seems certain that an explanation of the winter prevalence—or the summer scarcity is to be found in the requirements of the parasites for (1) protection, (2) warmth, and (3) food, and not conditions of the hosts *per se*. Not only are cases less prevalent in summer, but those occurring are not so severely affected. Possibly then, there is not much distinction to be drawn between severity of symptoms and seasonal occurrence.

Parts Affected. The localisation of the mange mites upon their hosts is variously stated. Little or no dispute arises over the choriopt, its *habitat* is the legs. I have taken them from the chest wall and stifle; possibly in rarer cases it may go higher, and as this form is not included in the Parasitic Mange Order, the characters of the parasite here become important.

Roughly speaking, the psoropt inhabits all those parts that can be seen from a bird's-eye view, often starting along the spinal column.

My experience with the sarcopt has not been in accordance with the statements of most works on veterinary parasitology. Law says it is seen "most commonly about the head, roots of mane or tail, the withers or back"; Neumann, that it is "observed about the neck and shoulders"; Raillet, "on the withers"; Megnin, "on the back and withers"; Lemaire, "on the withers, back and sides." In all the cases which I have been able to examine, in the early stages, the disease has always been confined to the underparts of the body, such as the intermaxillary space, tracheal

region, and lower aspect of the chest and abdomen. From these seats it extends upwards. Taking into consideration the burrowing habits of the ovigerous female sarcopt, these are certainly the parts which one would have expected to have been attacked.

Diagnosis. Much can be gathered with regard to this from an inspection of the lesions and the parts affected. In summer, the psoropt can often be seen at the edge of the lesions; but the absolute diagnosis of the form of mange present must always remain a microscopic one. Let us remind ourselves that, provided disease is produced on a horse, an adult acarus whose four hind legs do not project beyond the body margin, is a sarcopt; one with suckers on the end of long pedicles on the four front legs is a psoropt, and one with suckers and apparently no pedicle is a choriopt. An undressed lesion should be sought out to obtain material for examination. The clinical features of the case will be some guide in taking material.

1. In summer, the psoropt can be looked for with the naked eye, or the hand lens applied to the edge of a scab or active lesion. Failing this, a little hair may be pulled, with its scab, from the edge of the lesion and warmed in a glass tube or petri dish, when the mites will be seen moving. If no parasites are found by these methods, a bunch of hairs with the scab should be taken and the scab snipped off with the scissors and allowed to drop into a petri dish containing a solution of caustic potash gr. xl. to ʒi. of water.

2. Hair from suspected chorioptic lesions must be treated in the same way. Nearly any part of the lesions will show them. It is immediately placed in caustic potash solution.

3. Material from the sarcopt lesion must be taken deeply, almost until the skin exudes lymph, and then placed under caustic potash solution in a petri dish.

After a period varying from a few minutes to several hours, the material can be examined in the dish under the lower power lens. The search can be made more accurate by placing portions of the moist material between two slides. The diagnosis lantern slides shown were taken in that way. By the above methods one is usually successful, but, of course, not always, and then the question arises, Does no acarus mean no mange? I feel sure that there are many cases of mange where it is almost impossible to find the acarus, especially in this so in a recent case on a thin skinned animal.

Principles of Treatment. Concerning these, one could say a great deal. No matter what aspect of treatment is being undertaken, it must be thorough. Sarcoptic mange is not the common form, and chorioptic can be treated similarly to psoroptic, so that my remarks will be directed to this form. These remarks are based on the records of over 1000 cases treated in different ways, and although you will most likely disagree strongly with what I am going to say, I feel sure that if you kept a similar record you would be forced to the same conclusion. Now the psoropt lives on the skin, and is not difficult to kill, so that if one observes the following principles in detail, treatment should be successful in a minimum amount of time. It is the time that animals are kept in the stable that is one of the teamowners' greatest grievances against the Parasitic Mange Order of 1911.

(a) Clipping. It is essential to clip the animal down to just below the stifles and elbows; there are many cases in which this is not done, either the owner has some peculiar idea as to the value of the winter coat, or he is afraid of spoiling the animal's spring coat. I know veterinary surgeons who do not consider clipping necessary, but if they were to analyse the results of their cases with regard to toxic symptoms, secondary pneumonia, and recurrence, they would be surprised. This mange is a disease of the winter and long coats, and the

value of removing the "cover" for the acarus is all important. I consider that the mane and tail should also be removed, because the parasite is in these places capable of obtaining a living without producing lesions of clinical importance for several weeks, or even months.

Besides reducing the death rate from toxic symptoms and pneumonia, a clipped animal uses less dressing. It is often wise in badly affected cases to use an old pair of clipping blades, on account of the liability of scurl to break the teeth. Clipping has other values; it reduces the activity of the parasite in winter, and so has a therapeutic value; it also shows the full extent of the disease. I cannot speak authoritatively with regard to the value of slow yet careful gas singeing immediately after clipping. In a few cases I found it apparently hastened a cure, whilst in others nothing appreciable could be noticed. If the weather and animal be warm, then it kills a great number of the causal parasite. If the treatment described hereafter be carefully carried out, I do not think singeing is necessary.

(b) Removal of abnormal epidermal products. This is the next most important step. It is simple or difficult according as to whether the case is a recent and untreated one, or an old standing and blistered skin. It is to be accomplished by the addition of about two to three ounces of soda, or acetic acid, to the gallon of hot water, and using this on the animal's body with soap. The most important point here is the choice of a suitable soap. Many soaps blister the horse's skin, and this is the one thing that must not happen if a cure is to be effected. Roughly speaking, any soap that can be used on a man's arms or face will be safe. After the animal has been lathered and soaked all over, the scrubbing brush will remove practically all the scales. Special attention will have to be paid to the mane and tail, and also to seeing that the animal is washed all over. There is no great objection to the addition of a little of one of the coal tar disinfectants to the water at this stage, although I think that it can just as well be saved for other purposes. After all the soap has been removed by warm water, the animal should be dried, rugged, and exercised, and bedded on straw. With proper grooming and exercise, many recently infected and untreated cases will recover without further treatment. I do not recommend stopping here, however, but only mention it as bearing out the chief aim of these remarks, viz., to show that in my experience treatment is more often than not, too energetic, and worse than the disease.

(c) Application of an anti-psoric dressing. On the day after washing, the animal has to be dressed with some agent which will kill the parasites that have survived their drenching in soap solution. The choice of an improper agent for this is by far the commonest cause of error in the treatment of this mange. I cannot do better than quote here a few remarks from Megnin, who says:—"Although parasiticides are numerous, a choice of them is difficult; many are dangerous, and it is not wise to permanently damage the animal's skin in order to rid it of parasites. Certainly one can cure sarcoptic mange with petrol and benzine, but causing at the same time an irritation of the skin which will persist for very many weeks, and at the same time producing an artificial affection with as many drawbacks from the point of utility of the animals as mange itself. This is the result of numerous experiments we have made. These show that one can cure mange by means of substances which kill the acarus, and at the same time allow the skin to retain all its softness and suppleness, and which allows the animal to be used immediately after its cure, which can be obtained in eight days. There are two substances which are acaricides par excellence, namely, sulphur and nicotine. These substances, mixed with soft greasy or oily excipients, constitute the best preparations against mange."

My experience with this form coincides exactly with Megnins of sarcoptic mange, with one exception, viz., that tobacco dust—which is used on account of its nicotine-containing properties, varies greatly in its compensation, and I have seen several deaths from its employment.

Oil and sulphur are then to compose our dressing. The sulphur demands no comment, but the choice of a suitable oil is most difficult, both from the therapeutic and pecuniary aspects. A suitable oil must not blister the skin, nor dry with a varnish-like layer, nor tend to turn rancid, nor prevent the normal functions of the skin taking place. In addition to these, it must be cheap. It is most difficult to get an oil to answer all these requirements, and one has to fall back upon the least harmful.

There are many bodies such as lard, lanoline, vaseline, or petrolatum (suet, horse fat, and goose grease are rarely used in veterinary pharmacy) and palm oil, which although occasionally employed can be discarded at once. They are dangerous when applied over large surfaces. Rape, linseed, and castor oils either cause dermatitis soon after application, or later on by forming a varnish-like film; olive oil is too dear, in addition to its tendency to become pasty in cold weather, to oxidise in air, and then go slowly rancid. The least dangerous oil is, I think, train oil. It is cheap. I have recently heard cotton oil spoken highly of. A peculiar feature about most oils is that for a period you will have no untoward damage to the skin, and then with the advent of a new supply of oil, comes marked skin corrugation in the treatment of your mange cases. This may be due to substances used in the refining process having settled to the bottom of the barrel. The proportion of sulphur to oil will vary 1/10 to 1/5 by weight. It is important that this dressing be supplied in an open vessel, such as a bucket, which can be stirred with a stick. Narrow necked opaque jars often contain several inches of sedimented dressing when broken. The animal should be covered at twice, the near side and then the off, at an interval of 24 hours. Here detail is essential; places commonly missed are the forehead, mane, tail, submaxillary space, breast, and inguinal region.

(d) Exercise and friction to the skin. The animal must now receive night and morning a good grooming with a duster, which can be wrung out in a suitable solution of some coal tar preparation. Exercise must be given twice a day. These last two items are as important as the others.

If a repetition of this course of the treatment is necessary, it can be undertaken on the 6th to 8th day, after which the animal should be able to resume work. The coat of a clipped and treated animal grows very quickly, and some time after returning to work, no harm can be done by again clipping and applying a dressing when it is at rest at the week end.

I know that mange cases are left in the stable and neglected, and that accounts for a great deal of the untoward sequelæ which we have to put up with. Many practitioners will recommend the addition to oil and sulphur of discutients, such as the alkaline carbonates or acetic acid; their work should, however, have been done before the dressing is applied. Oil of tar will be used by others. Some I know will laud tobacco refuse, but its varying composition is enough to my mind to bar its use. Lime and sulphur will have its advocates. Proprietary dips I have seen used extensively with terrible results. Admirable though many of them may be, they lend themselves to careless or over-anxious uses by horsekeepers or owners. If a small quantity is given out, half to be used in a bucket of warm water once a week, you may rest assured that the careful, or careless, man is most likely to use all the material in about three-quarters of a bucket of water, and apply it

for two or three days in succession—with disastrous results to the skin. I do not think that watery dressings on the horse have given such good results as one expected. The damaged skin, now more prone to irritation, wants some bland oil to replace the deficient natural oil and protect the abraded surfaces from the action of the air or acrid discharges.

What I want to insist is that our treatment must be mild. Perhaps it may be said that I am going too far in the mild direction. I am satisfied that I am not, but I am sure good will be done if some of the heroic treatments of to-day are replaced by milder measures.

There is much more that might have been said on the many other aspects of the diseases, but I fear that I have already taken up too much time.

After reading the paper Mr. Pillers exhibited the slides illustrated, and several others.

DISCUSSION.

Mr. BROOKE said that Mr. Pillers' paper had interested him beyond measure. When Mr. Pillers' read a paper at the last annual meeting, he gave them hints which many of them had found extremely useful, especially how to distinguish the three parasites with which they had principally to deal, and he had given them quite as practical a paper on this occasion. He would like to have the information contained in the paper preserved in some handy form. Mange was always cropping up in one direction or another, and the pictures which had been thrown upon the screen that afternoon had taught him a great deal. He and his friend Mr. Dawes had used the petri dish and had benefited very much from it. Mr. Pillers did not seem to have discovered the ideal oil for use in cases of mange, and he had excluded from his paper some that many of them were in the habit of using. They ought to use rugs with removable linings after clipping. To his (the speaker's mind, the dressing *par excellence* was sulphur, which could be coloured in cases where they did not want the client to know too much as to what they were doing. He had also used with some degree of success a mixture of three per cent creosole. Another good remedy was sulphur, oil of tar and linseed oil, but it was open to the objection that it dried in a varnishy fashion. He had searched the text books many a time for the very information Mr. Pillers had given them that afternoon, and he had either not found it at all, or it was expressed in nothing like so lucid a manner as the essayist had put it that day.

Mr. GRASBY said he had been an attentive student that afternoon, and had very much enjoyed the subject. He was glad to hear Mr. Pillers express the opinion that it was best to have the patient thoroughly washed before any application of the dressing. He thought the neglect of that precaution was probably the reason of many of their cases hanging on as long as they did. It was a good thing to have the patient well washed, but they should remember that some soaps blistered horses, which was a thing necessary to avoid. Soft water, plenty of bran, and a little energy on the part of the man was a good thing. He himself did not use much soap, but such as he did use was the best hard soap, like that used in the house. Mr. Pillers said the mane and tail were sometimes missed in washing, but he should have thought they would have been the very places at which a start would have been made, because they wanted to be clipped closely. It was new to him that they could rely on oil and sulphur only, because they had generally used turpentine and tar, which would enable it to stick to the skin so as to let the dressing do its work properly. He wondered whether in chronic cases Mr. Pillers thought it advisable to go on using such irritants as ammonia and turpentine, which were found necessary sometimes to get the scale off. The

harness that the patient had been wearing ought not to be overlooked. Speaking for himself he had the lining removed from the collar and saddle, and leather part boiled and afterwards treated with oil or something of that sort. He also insisted on a fresh lining being put in. For bedding, Mr. Pillers suggested straw, but in the Army Veterinary Department it was a regulation, in the case of mange, that the bedding should be removed, and the patient had to lie on the bare ground with a little sand thrown down perhaps. That was rather rough treatment, but it seemed to answer its purpose. He would sooner see the horse have a little sawdust than nothing at all.

Mr. GOOCH said he was struck with one matter which Mr. Pillers strongly emphasised, and that was the necessity for a preliminary treatment of the patient before the application of the dressing. That seemed to be the essayist's sheet anchor, and unless they carried out the clipping and washing, Mr. Pillers did not think the dressing would have a lasting effect. There had been some mention of the use of nicotine as a cure. Well, nicotine might be all right in the hands of an expert, but if left to the layman the results might be disastrous. He hoped Mr. Pillers would allow his paper to be printed *in extenso*; there was much in it of practical utility to the veterinary surgeon.

Mr. WARTNABY said the slides that had been shown to illustrate the paper were of more use than the paper itself, because without them the paper was of theoretical rather than practical use. He should like to ask Mr. Pillers if he could give them any real recipe for dealing with the scab parasite in sheep. There were many cases where he had inspected flocks of sheep and satisfied himself that the animals were suffering from scab, and he did not mind confessing that he had the greatest difficulty in finding the parasite. With regard to the dressing, he would be very glad if Mr. Pillers would tell them the proportion of nicotine he used. The dressing Mr. Wartnaby used himself, after having the animal carefully washed with warm water, soft soap, and a handful of washing powder, was train oil, sulphur, and tar thinned down with a little naphtha. If the patient was not better at the end of three days he applied it again, and let it stand another three days. Some years ago he took over the treatment of some pit ponies, about ten of which he found to be suffering from chronic mange. After some weeks treatment he thought he had cured them, but next autumn two of them broke out again. He adopted the same method of treatment and flattered himself for the second time that he had cured them, but they broke out again the following autumn—and so it went on for two or three years. He would like Mr. Pillers to say how he would account for that outbreak. He gathered that these parasites ought not to live more than a couple of months; how did they manage to exist the rest of a year?

Mr. FORSYTH said he had been adopting a milder treatment, simply train oil and sulphur, but he had a few cases, perhaps one in ten, where he had had to apply different dressing—a mild mercurial dressing. He had had cases recur months and months afterwards, and he did not quite understand them. He could mention cases where the patients had been kept strictly clean, and yet after being apparently cured they had to be treated again at recurring periods for sarcoptic mange. As to pit ponies he had never had anything out of the ordinary in recurrence of parasitic mange, but periodic eczema, especially in Russian ponies, was a very common thing. It cropped up twice a year, in the spring and in the autumn, as regularly as possible, but it was not contagious, and he had never found any parasites. A cooling application was generally better for them.

Mr. BROOKE: What is the situation of the trouble?

Mr. FORSYTH: Principally in the shoulders, but occasionally in other parts of the body, generally the parts

that come in contact with the harness. He thought the eczema was brought on by the sudden change of temperature in Russia, where they had frost and snow one day and sun the next. Mr. Pillers had given them his idea as to the parasite existing in the tail, but it was difficult to understand how it could go on for twelve months, and especially in a clean stable.

Mr. BAINBRIDGE said he could not understand the use of common soap and acetic soap, as one was alkaline and the other an acid.

Mr. PARKS said he used to have a certain amount of trouble in finding parasites, but when he tried keeping his scrapings warm, as for instance, putting them in an envelope and taking them home in his pocket, near his body, he had no trouble at all. He found exercise of great importance in treatment, although he recognised the difficulty of getting it done, especially in towns, where there was not always room enough. He believed, also, in disinfecting the stables and clothing, but he should have thought that boiling the leather part of the harness, mentioned by one speaker, would have spoilt it. In the country, they perhaps did not see so many cases, but if they made the man whitewash the place well when he has dressed the patient, and make him do it again and again, the veterinary surgeon could tell how much the animal was rubbing.

The HON. SEC. said that like other members who had spoken, he wished to thank Mr. Pillers for his more than interesting paper. When he was in correspondence with that gentleman on the subject he said, referring to the paper Mr. Pillers gave them on the last occasion, "It was a good paper, but we want something more practical this time." Certainly Mr. Pillers had carried out that injunction to the letter, and after all, veterinary surgeons in practice required a paper such as they had heard that afternoon, instead of listening to a lot of theory explained in scientific language, which they sometimes soon forgot. With regard to mange, he thought they had more difficulty with cases that had already been treated. When an animal had already been dressed with a strong dressing it was often very difficult to find the parasites. He had sometimes searched in vain, although he was quite certain all the time that it was a case of parasitic mange. Another difficulty they had to contend against was that the treatment ordered was not always carried out thoroughly. A veterinary surgeon sent a dressing to a client with instructions how to apply it, and it was frequently done in a slipshod manner. The consequence was that they did not get rid of the disease as soon as they might. He knew a man who went about treating mange very successfully, not because there was anything particular about his dressing, but because he was very thorough and very careful about his work. In towns the disease was very prevalent. It was difficult to get patients exercised, partly because the authorities objected, and partly because many owners had no room on their own premises for the exercise to take place.

Mr. EVERSHED described the paper as one of the most useful he had ever listened to; quite a small post-graduate course. As to the method of finding the parasite, when he was at Aldershot they took the scrapings and centrifuged them, the heavy parasites falling to the bottom of the tube. Did Mr. Pillers adopt any particular treatment for each different parasite, or was his treatment the same for all? He endorsed what a previous speaker said about the removal of all bedding in mange cases in the Army, and the result was always satisfactory.

Mr. BROOKE said he would like to ask another question that had occurred to him during the course of the discussion. Was there any means of enabling them to diagnose a case of mange from one of eczema. He had often found a difficulty himself in the matter. In the smaller animals, and in cats in particular, they were all

familiar with face mange. Was there any reason why it should be in the face almost exclusively, instead of wandering all over the body?

The PRESIDENT, in closing the discussion, gave some of his own experiences. He said he learnt a lesson once in a curious way. He had a case which kept recurring, although the stables were always kept scrupulously clean, and then it occurred to him to have the shafts of the carts cleaned. That was evidently the secret of the trouble, because they had no more of it afterwards. With regard to the treatment of leg mange, he found the old-fashioned remedy, oil of tar and black sulphur, answered very well. There was what was called the South African treatment, and the dressing, which certainly had proved very successful, was composed of the following ingredients: 4 ozs. of paraffin, 2 ozs. of lard oil, and soap solution (1 lb. to the gallon). It was an ideal dressing, cheap also, and made the skin as soft as a glove. As to putting rugs on horses that were clipped, it was not at all necessary. He had eight horses that were clipped every season which never had a rug on them, and they looked as well as anybody else's. Nicotine, he thought, was a dangerous thing to use, and he knew of cases where it had been used on sheep with fatal results. There was a firm in Glasgow that made it at a standard strength. In experienced hands, it was a good thing perhaps in its way, but he would advise them not to try to make their own, as they could never be sure what strength they had got. Some tobacco was different from others.

Mr. PILLERS, replying to the discussion, said the best way of thanking him for any trouble he had been put to in the preparation of the paper was to listen to him as attentively as they had done that afternoon. Their evident appreciation of what he had done was the only thanks he required.

Mr. Brooke advocated the use of rugs for clipped horses, but he (Mr. Pillers) thought that in the treatment of mange, rugs were objectionable. He had seen very few bad results, such as pneumonia, if the rugs were left off after clipping. Dispensing with rugs would probably meet with some opposition on the part of clients, and if they were afraid of offending a client they must act accordingly, but from the point of view of mange, rugs were a source of danger. Apart from the fact that they absorbed the dressing, if the rug became infected there was the danger of other portions of the horse catching the disease.

With regard to the particular oil to use, he thought train oil answered the purpose best. They might colour the sulphur, as one speaker had suggested, but black sulphur was used extensively, and that was not so easily detected. He did not want it to be understood with regard to the treatment that he said oil and sulphur alone were absolutely the thing. The addition of a little tar or turpentine might be a good thing, but his advice was "Don't overdo it."

As to the trouble which some members had mentioned in diagnosing mange, namely, where an animal showed no symptoms although literally swarming with mange lice, that was not at all uncommon. They might find any amount of parasites and no lesions. They might even have that particular animal among a lot of other animals, and none of the others catch it, whilst on the affected animal the disease may not spread at all. He did not think they could say it was not mange because it did not spread. He had been asked to explain why the parasites attacked certain parts of the body. They knew mange of the legs well enough, and there was a parasite that was found in the ear, but he did not know how to explain it apart from the theory of natural selection and the survival of the fittest. In the case of cats, their paws carried the parasite, and it got on the face in fighting. As for leg mange, it was what he might almost term the natural habitat of the

parasite, for there was plenty of coarse hair on the leg, and that was the place which the parasite sought out. Location was a curious circumstance, and he did not know that he could explain it in other terms.

The use of soft water and bran, as mentioned by Mr. Grasby, seemed a good idea. As to the use of bedding, he had seen animals with no bedding at all, but they often bruised themselves badly, and the remedy was thus sometimes worse than the disease. As to nicotine, he thought tobacco varied in its composition, and he had seen very bad results from it in the case of some horses. As the President had remarked, it was perhaps best to avoid it altogether. Mr. Wartnaby was not the only one by any means who had had the same difficulty in finding the scab parasite in sheep. It was often very difficult to find, and then one only succeeded after a prolonged search for lesions.

In all the different dressings that had been spoken of, the thing to remember was to set up as little irritation as possible. They had heard in the discussion about animals having the disease once or twice a year for two or three years. That was a feature of psoroptic mange; something happened, and the animal showed symptoms suddenly. The reason was that the coat became long, and the parasites wandered and so spread the disease. In dressing, some parasites got missed, and so the life history of the parasites went on all the time, although it was not observed.

Mr. Forsyth had mentioned what he called periodic eczema, but he (Mr. Pillers) was rather doubtful about it. He was inclined to think it was something parasitic. The want of thoroughness in the application of the dressing, as mentioned by Mr. Dawes, he had noticed himself, but of course they could not always be on the spot themselves, and so were obliged, more or less, to trust other people. In answer to Mr. Evershed's question about the treatment of the different parasites, he thought sarcoptic mange wanted treating a little more strongly.

VOTES OF THANKS.

On the motion of the Hon. Sec., seconded by the President, Mr. Pillers was very warmly thanked for his paper, and a promise extracted from him that he would allow it to be printed in *The Veterinary Record*.

A vote of thanks was also accorded to Mr. S. J. Marriott for making the local arrangements for the meeting, and providing the lantern and screen.

H. J. DAWES, F.R.C.V.S., Hon. Sec.

Yew-Poisoning—Claim for Loss of a Horse.

At Kendal County Court before Judge Gawan Taylor and the Registrar, Mr. G. E. Cartmel, Mr. Ernest Bennett, carrier, Ambleside, claimed from the trustees of the late Miles Dixon, Grasmere (Messrs. W. Fuller and T. Wilson) the sum of £51, value of a horse which died from yew tree poisoning. Mr. Gatey appeared for plaintiff and Mr. W. Heelis for defendants.

Mr. Gatey said the claim was for the value of a horse belonging to plaintiff which whilst on the highway at Grasmere on 13th June ate a portion of yew tree growing upon property of defendants and died in consequence.

His Honour: Do you say the owner is liable if the yew tree branches don't project into the highway?

Mr. Gatey: Yes. There are a large number of cases between adjoining owners. It all depends in those cases on the projection; the man on whose land the tree grows is liable if it projects.

His Honour: And is there a distinction where the yew tree grows over an adjoining land and over the highway?

Mr. Gatey said that was a point he wanted to satisfy His Honour upon.

His Honour said there were no highway cases of yew branches, they were all cases of adjoining owners.

Mr. Gatey said that was so, but the present case had been foreshadowed by Lord Justice Collins in an imaginary case of a poisonous drug being exposed for sale and a child taking some. There was another case of a pitfall being made near a highway and a person falling in.

His Honour said there must be a limit to this doctrine. The horse in this case had evidently got its head over the wall and cropped a yew tree.

Mr. Gatey said this was a poisonous tree adjoining the highway interfering with the public enjoyment and therefore actionable if anything occurred. It was the instinct of the horse to eat anything green it might see.

Photographs were submitted, and Mr. Gatey said the wall projected at the place, and the yew tree was right in front of the horse's nose.

Mr. Gatey contended they had a right on the highway without their rights being interfered with by anything causing danger.

His Honour said, suppose they took a fishmonger's slab, it might have on it some fish poisonous to horses. It was a large doctrine.

Mr. Gatey quoted the case of Harold and another v. Watney in which a child had been injured by placing its foot on a fence bordering the highway when the jury found the fence to be defective and held that it was a nuisance and the owner liable.

His Honour said the horse might be a trespasser. It put its head into another person's garden and ate some yew. They must show how the owner of the horse could recover.

Mr. Gatey said "precisely." The mere fact of a horse being a trespasser did not prevent them having their remedy. There was the case of a man attacked in a field by a horse although he was a trespasser.

His Honour remarked in that case the owner had tacitly allowed people to traverse his field in which he kept a dangerous horse. The House of Lords had not gone so far as to say that though a man had been bitten by a horse or tossed by a bull, whilst trespassing, that the owner was liable.

Mr. Gatey said there was the case of dog spears where a man crossing over a garden was held to be entitled to damages. Although a trespasser a man was not entitled to have to meet any latent danger.

His Honour thought if a horse put its head over another man's land and ate yew the owner of the tree was not liable.

Mr. Gatey then proceeded to quote Hadley v. Taylor, the case of an unfenced hole, and Brown v. Midland Railway Company where a heap of stones by the roadside had caused the horse to shy. He submitted that both the plaintiff and the horse in the present case were legally on the highway, that the horse did not stop a long time, but simply for the purpose of loading and unloading, and there was no question of carelessness.

His Honour: This is a case likely to go further?

Mr. Gatey: Yes, your Honour.

The Judge said he would therefore take a full note and would now hear the evidence.

Richard Hudson, carter for Mr. Bennett, said on the 13th June he took a lurry load of goods to Grasmere, two horses harnessed, one in front of the other. On getting to Grasmere he stopped near Mr. Steane's shop and pulled his horses up about a foot from the side of the road. At the end of the footpath there was a wall projecting out into the road. There was a yew tree growing in the bend of the wall. He got on the lurry to move the cases to the back. They weighed about 1½ cwt. each, and witness had his back to the horse. Jack Gibson spoke to him, and in consequence witness got off the lurry and saw the leading horse with some yew in its mouth. He took out of its mouth all he saw.

The horse was then standing about a yard from the wall in the same position as he pulled it up. It took him about two minutes to deliver the cases at the back of the shop. He then went on the rest of his round and finished without noticing anything the matter, and got back to the stables about 6.30. He unharnessed the horse, took it out, put it in the stable and fed it. About ten minutes after he heard a noise and went to the stable. The horse had dropped down and was lying in the stall. He went to inform his employer, who sent for the veterinary surgeon. The horse died about five minutes later. It was a perfectly quiet horse.

Cross-examined: He had driven for Mr. Bennett about fourteen years, and had often called at the shop before, every week and sometimes more for ten years. He knew of the position of this yew tree, and that it was dangerous for animals to eat it. When he pulled up the horse was a yard from the wall.

His Honour said he could have pulled the horse up some distance away opposite the next shop.

Mr. Gatey said he would have had further to carry his cases, and having done this for ten years he scarcely anticipated such an occurrence.

Cross-examined? While on the lurry shifting the goods he had no control over the horse. He was not aware of anyone except Gibson drawing his attention to it. Dodgson did not.

John Gibson, grocer's assistant with his father in Grasmere, said on the 13th June he had business at the bank, which was in the same block of buildings as Mr. Steane's shop. On coming round the curve he saw the leading horse eating the yew tree. The driver was on the lurry with his back to the horse. He shoved the horse back into his chains. It was eating the yew. He called Hudson's attention to it as he knew yew was dangerous, and he said "All right," and got off to attend to it.

Richard Scott, M.R.C.V.S., said he had practised in Ambleside 13 or 14 years, and on 13th June was telephoned up, and was on the spot immediately. He went in the stable and found the horse lying in the stall, and it had practically just died as he went in. He advised a post-mortem, and made one next day and found distinct traces of yew tree poisoning, both undigested leaves and twigs in the stomach. The cause of death was an irritant narcotic poison called taxine, the active principle of the yew. It sets up gastritis generally, and causes great prostration. It was not unusually quick, as it depended upon the amount of food in the stomach. If there was a large amount of food it would neutralise the effect. This horse had a considerable amount of food in its stomach, which would account for the interval of five hours before death occurred.

In reply to His Honour as to whether yew poisoning did not set up peritonitis, witness said it caused inflammation of the stomach; it did not really get to the intestines. The horse was a sound one, six years old, and he valued it at 60 guineas.

Ernest Bennett, carrier, owner of the horse, testified to sending for the veterinary surgeon, and going to the stable where the horse was lying. He gave £51 for the horse on January 1st, 1912. The horse had improved since he bought it, and he could not replace it for that amount. The horse was not insured.

Septimus Dodgson, bootmaker and coach agent for Riggs, Ltd., and L. & N. W., said he occupied the garden where this tree grew, using it as a tea garden. On June 13th he saw Bennett's man and the two horses outside the chemist's shop. The front horse was reaching up into the tree, eating it. He called out to Hudson, "Look to your horse, it is eating yew." It had then got some in its mouth. He said, "Never mind t' girt —, it will not eat what'll hurt." Hudson did not get down, and Gibson then came. He had scarcely got the words out of his mouth when Gibson came over

the bridge and put the horse back. Gibson shouted from the bridge, and between him shouting and getting to the horse it went on eating. This distance would be eight or ten yards. Hudson answered Gibson something similarly as he did witness.

Cross-examined: He was tenant of the land on which the yew tree stood, and knew that such trees were poisonous to horses and cattle. Hudson was on the lorry busy moving cases about when he spoke to him.

In reply to the Judge, witness said Gibson spoke from the bridge immediately after him. It might be half a minute or a minute between Gibson speaking and moving the horse's head, Hudson being busy with boxes during the interval. The distance from where Gibson was to the horse's head would be about 15 or 20 yards. It would have been just as easy for Hudson to have jumped off and gone to the horse as witness. The horse would have had time to have got one mouthful before any of them could have got to it. He did not realise, but he had heard it spoken that yew was poisonous.

Mr. Heelis said this was all his evidence, and the court then adjourned for a short interval.

Upon resuming, the Judge said assuming there was negligence (though he did not endorse that proposition) on the part of defendants, there was evidence that Gibson and Dodgson cried out to the driver that the horse was eating yew, and the driver did nothing whilst Gibson traversed the distance of 20 yards to the horse's head. What evidence had he that before Gibson or Dodgson cried out the horse had taken enough yew to kill it? By the exercise of reasonable caution the driver could have avoided the consequences of defendant's negligence, assuming there was any.

The Judge and Mr. Gatey continued to argue the point as to whether the driver had exercised every reasonable care.

Mr. Gatey also held that they were entitled to have the free use of all parts of the highway without risk of coming to any harm.

The Judge replied that the first principle of common law was that defendants were not liable if plaintiff could have avoided the consequences.

Mr. Gatey mentioned that the driver had been going over that road for ten years, and had no reason for thinking such an accident would ever happen.

The Judge said the driver, on his own admission, knew of the danger of yew trees, but never took any care whilst Gibson was 20 yards away.

Mr. Gatey said he did not think they could take Dodgson's evidence as conclusive. He was standing a few yards away, and if he thought there was danger he could easily have stepped the length of the lorry.

His Honour: But he called out, "Look after your horse." The driver should have got there.

Mr. Gatey said it was impossible for anyone to foresee these little points.

His Honour admitted it was so, and said Mr. Gatey had argued with great moderation.

Mr. Scott was re-called, and said he found considerable traces of yew amongst the rest of the food, corn and hay, partly digested along with the food. It had to be partly digested to get the active principle out of the poison. It must have had quite a feed of it, as there was a lot of yew about the stomach.

In answer to the Judge, witness said a smaller quantity might have proved fatal. There was a large amount of food, which would help to neutralise the poison to a certain extent. If there had been two mouthfuls less, he did not suppose it would have made much difference. It was a typical case of yew poisoning.

The Judge repeated, "Why did not the driver pull the leader back, jump down, and pull every scrap out of its mouth?"

Mr. Gatey: Exactly what he did. Even if His

Honour held there was negligence on the part of the driver it did not disentitle the plaintiff to recover.

The Judge: Assuming negligence, was the defendant's negligence the cause of the loss?

Mr. Gatey: Were the defendants justified in putting on their land anything which required reasonable care to avoid?

The Judge: Was the loss caused by defendant's negligence, or was it caused by plaintiff's own negligence? The inclination in my mind is that it was due to contributory negligence on the part of plaintiff's man, unless you can satisfy me that the assumed negligence of defendants was the cause of the loss. There is no evidence that the horse had taken enough yew, before the attention of the driver was called, to kill it.

Mr. Gatey: If your Honour is against me on that point, I have no case. I came here to establish that the plaintiff had a perfect right to be on the road, to draw up his horse at this place, and to load and unload goods.

His Honour: But if the plaintiff had knowledge of the dangerous qualities of yew, he was guilty of contributory negligence in leaving his horse there.

Mr. Gatey: But here the defendants have four shops. Every article has to be brought by road, and horses and carts are standing there daily. Yet you allow a yew tree to stand. The defendants enjoy the rents of the shops, and we have to serve them. They put the poison right in front of the nose of our horse.

The Judge: The horse put its nose over the wall.

Mr. Gatey: Look at the danger of driving a herd of cattle past. The leading cattle could get several mouthfuls before being stopped.

His Honour: That is a very interesting point, but I am afraid I cannot decide it to-day.

Mr. Gatey: If you say there was negligence you are against me.

His Honour: I don't want to put it too high, or be too harsh. I think the man was guilty of want of care. He had a summons or a shout from the man at the bridge, and did nothing.

Mr. Gatey: If you are against me on the question of the carter being negligent, or not having done all he ought to have done, I cannot do anything more.

His Honour assumed the point had been established that by exercising reasonable care the carter could have avoided the consequences of his own action, and found judgment for defendants.—*The Lakes Herald*.

The Hunting Memorial Fund.

A meeting of the Sub-Committee of the above Fund will be held at the Royal College of Veterinary Surgeons, 10 Red Lion Square, W.C., at 7.30 p.m., on Friday, Dec. 12th. Chairman, Prof. James Macqueen.

Subscriptions Received up to 7 p.m., Dec. 3rd.

	£	s.	d.
Previously acknowledged	62	8	6
Mr. G. P. Male, Reading	1	1	0
John Lawson, Brooklands, Cheshire	1	1	0
Maj. E. E. Martin, A.V.C., Salisbury	1	1	0
Mr. Alf. Over, Rugby	1	1	0
Capt. L. M. Verney, A.V.C., Canterbury	1	1	0
Mr. Richard Onley, Chelsea	10	6	
Lieut. Richard E. Irwin, A.V.C., Woolwich	10	6	
Mr. John W. Edwards, Kingston-on-Thames	1	1	0
	£69	15	6

HENRY GRAY, Hon. Sec. & Treas.

23 Upper Phillimore Place, W.

Cheques endorsed "Hunting Memorial Fund" and crossed "The London City and Midland Bank, Ltd. Kensington Branch."

ANNUAL REPORT OF THE CIVIL VETERINARY DEPARTMENT PUNJAB.—By Lieut.-Col. J. Farmer, Chief Superintendent. [ABSTRACT.]

The following officers held the several appointments:

Chief Superintendent.—Maj. G. K. Walker,
Lieut.-Col. J. Farmer.
Superintendent, N. Punjab.—Mr. Woodley.
" *S. Punjab.*—Mr. Taylor.
" *Govt. Cattle Farm, Hissar.*—Lieut.-Col. J. Farmer, Mr. Branford.
Officers under training.—Mr. Meadows, Mr. W. A. Pool, Mr. W. Taylor.

The duties of the camel specialist were carried on by the Chief Superintendent for a short time when Mr. Leese was on leave.

The supervision of the Cattle Farm at Hissar has been placed upon the Chief Superintendent since Lieut.-Colonel Farmer took over charge from Major Walker.

Treatment of Disease.

During the year under report 28,125 deaths from contagious disease were reported against 25,455 last year. The increase is due to the large number of outbreaks, and also to the fact that a comparatively small number of cattle were protected from rinderpest by inoculations as fees for inoculations were charged. The people have been accustomed to have themselves and their children vaccinated and inoculated free; therefore they cannot understand why their cattle should not be treated accordingly. The Chief Superintendent, after a considerable amount of trouble, managed to get inoculations done in Jhang where the people are very much against it. A few zaildars, after his lecture, came forward to pay for 100 cattle to be inoculated in their zails. This will show the people the benefit of inoculation.

Deaths from equine contagious disease number 71, against 59 last year. The increase is accounted for by surra.

Glanders has again been prevalent on the Pathankot, Palampur and Dalhousie tonga lines. Very energetic measures have been taken to put a stop to it.

There are now two veterinary assistants, one for the Dalhousie line and one for the Palampur line. Should the disease still continue, two more veterinary assistants will be appointed to detect cases.

The Chief Superintendent considers it very necessary that all licensed ekka and tonga animals in all the districts in the Punjab should be examined and passed by veterinary assistants and some responsible officer before licences are issued.

Surra.—There were 25 deaths from surra as against 16 last year. Muzaffargarh district alone accounts for the increase.

Strangles as usual was prevalent. This disease shows itself during and after fairs. It is very difficult to prevent this. Inspections are made of all animals and diseased ones isolated, but it is quite possible for a case not to show any external symptoms at the time of entering the fair ground.

Tetanus, mange, and bursatee were also prevalent.

Rinderpest was reported from every district in the Punjab. The mortality was 12,924 against 9,317 last year. Although the year was not an unusually unhealthy one, the heavier mortality can be said to be due to the fact that more inoculations should have been performed, but as fees have now been withdrawn, better results will ensue.

Treatment with potass permanganas was carried out in the central circle. Out of the 159 animals so treated 130 recovered. More will be done when opportunities occur to prove the success of this treatment.

The Department has been explaining to the people

the absolute necessity for isolation and nursing. The Chief Superintendent had an opportunity of explaining to the different gatherings the results of bad feeding. It is only by dealing with the people in this way that they get to understand the elements of practical hygiene and so improve the conditions under which cattle are reared. The disease in a famine year is generally worse, as the animals are so debilitated that they are unable to withstand an attack of the disease, and there is no reserve of good fodder with which to feed sick animals during convalescence.

18335 inoculations were performed in 197 outbreaks which occurred in 19 districts; 3,651 uninoculated and 67 inoculated animals died in the course of the outbreaks. A few of the district boards have paid for inoculations which has been a great help to the department. Had it not been for them the mortality would have been heavier than is reported.

Foot-and-mouth disease.—This disease was reported from 23 districts, and 323 animals died against 684 last year.

The mortality from this disease is very small, and is chiefly caused by flies (*Sarcophagus liniata colis*). This fly is capable of laying at least 20 larvae in a minute on the sores in the interdigital space and mouth. The same fly causes a great deal of trouble in rinderpest.

Although the deaths from foot-and-mouth disease itself are very small, the deformities caused in the feet by it and maggot infection are very great, and this is chiefly the reason of so many bad feet in the country. It also affects the development of young stock.

Material from foot-and-mouth disease cases was sent to Bareilly for the benefit of the Royal Commission investigating the disease.

Haemorrhagic Septicæmia was reported from every district in the province. 8676 animals died against 10,894 in the previous year.

From the Chief Superintendent's personal experience it is ascertained that the disease remains confined to certain areas where water lies in shallow pools where land becomes inundated, and in places where canal water gets on to already infected land, which is not cultivated.

The following occurred on the Hissar Farm. There is a shallow tank which was supplied from the Western Jumna Canal. Haemorrhagic septicæmia occurred at all times of the year, and after careful investigation it was discovered that the herds affected with the disease grazed on the banks of this tank. The area was enclosed with a thorn fencing, and the disease in consequence stopped. About three weeks later, owing to a storm, the fencing became breached, and the animals got into the area and the disease broke out again. The breaches were repaired and the tank dried, and the grass and jungle on the ground all round cut and burnt. The intention was to have the whole place well ploughed up, as it is believed that if these places are so treated, the organism which lies under the soil, where there is still moisture, if exposed to the sun will be destroyed. The Chief Superintendent has been advising zaildars to have this done. At what depth the organism survives he is unable to say. In large infected tracts besides rivers he recommends that cattle be kept away until the ground becomes dry on the surface and the grass is fully ripe. To expect a grazier to prevent cattle going to these areas before they are dried, is a great deal. Until the people thoroughly understand the benefit of the system, vaccination will have to be done. This method will be carried out experimentally next year in as many places as possible. He thinks, from his experience, that it is not fly transmitted.

Preventive inoculation.—1043 animals have been inoculated with haemorrhagic septicæmia serum in 9 outbreaks, and 1332 were vaccinated in 27 villages in 6 districts.

Blackquarter.—The mortality from this disease is normal. Until inoculations are performed regularly, *i.e.* after animals are weaned, in infected areas the mortality will not decrease. At the Hissar Farm this is done, and the results have been good. Deaths do occur before weaning, but not so often as after weaning. The immunity lasts for six months after vaccination.

At Hissar certain jols (low-lying depressions where grass grows luxuriously and keeps green for a longer time) were cleared out and burnt one year; the result was good and fewer cases occurred.

Investigation of diseases.—Information was received by the Chief Superintendent that a disease called phutka amongst goats in Kangra and Kulu was devastating the flocks. The goats belong to a class of people called Gaddis. They graze their animals over very large areas. They march their sheep and goats at least five miles a day. After a great deal of difficult marching and visiting their encampments, cases of the disease were procured, and were sent to the College for investigation, as the Chief Superintendent's time was fully occupied in investigating the disease in the field. The disease is a contagious pneumonia, and owing to the goats being marched daily, it gives the animal very little chance of recovery. The necessity of isolation and giving rest to diseased goats has been fully explained, but it is a difficult matter to carry out, as Gaddis cannot stay more than a day at a place when on the march, owing to rules and regulations laid down. In this way ground becomes contaminated, and fresh flocks passing that way are affected. Before the Chief Superintendent's visit the Gaddis were so suspicious that they would not divulge where the disease was prevalent. This suspicion has now been overcome. A great number of goats die of inanition brought about by inability to graze on the hill sides, owing to their being crippled by diseased feet. The disease is caused by injuries in the cleft of the foot, followed by abscesses. Gradually the horn of the foot sloughs and the disease extends up the leg. The injuries, if attended in time, can be cured.

Specimens.—One hundred and sixty specimens were received and examined by the Chief Superintendent, and 85 and 269 by the Superintendents, North and South Punjab, respectively. Specimens of blood-sucking flies and ticks were collected and forwarded to Pusa. The Chief Superintendent hopes that in the future, veterinary assistants will know more about the flies and ticks in the province than they do at present. It is hoped that next year the areas showing the different species of flies will be mapped out.

Other Diseases.

During the year 9,948 villages were visited by the veterinary staff on tour, and 63,416 animals were treated.

2268 castrations were performed against 1059 last year. Although there is a marked increase, but yet it is insufficient. Cattle breeding will never improve until a large number of castrations are performed.

Veterinary Hospitals.

At the close of the year there were 113 hospitals in the province, at which 270,889 cases were treated, against 109 hospitals and 241,291 cases in past year. This is very satisfactory increase, and indicates the growing popularity of the institution.

At present there are 86 veterinary hospitals on approved plans. The Chief Superintendent is glad to say that after a little persuasion a new veterinary hospital is being built at Amritsar. He has to thank Mr. J. Addison for his kind help in the matter.

The only income is from fees which amount to Rs. 18,489, against Rs. 16,450 last year. This is a satisfactory increase. The Department is not a commercial one, and what should be remembered is the amount of

good done to the sick and lame animals, belonging to the poor, free of charge.

All cruelty cases arrested by the Inspector, R.S.P.C.A., on the Pathankot-Dalhousie line are treated at the veterinary hospitals. A great number were also seized and sent to hospitals by the Superintendents of the Department for treatment. This Department has done a great deal more during the year to alleviate the suffering of the dumb animals than the outside public can imagine.

The Simla veterinary hospital is doing good work, and is self-supporting. Veterinary Assistant Ghulam Hussain deserves great praise for his work. During the year the income was Rs. 5,644. After deducting all expenses, Rs. 3,250 were credited to the provincial revenues.

DISEASES OF ANIMALS ACTS, 1894 TO 1911.

Return showing the number of Premises on which the existence of TUBERCULOSIS has been notified to the Board of Agriculture and Fisheries during the month of November, 1913.

ENGLAND (Counties) *		ENGLAND (continued) *	
Bedford	1 1	Westmoreland	3 4
Berks	3 5	Wilts	21 23
Cambridge	1 1	Worcester	7 7
Isle of Ely	1 1	York, East R.	10 10
Chester	44 45	" North R.	9 9
Cornwall	9 10	" West R.	39 40
Cumberland	3 3		
Derby	19 21	WALES.	
Devon	14 15	Anglesey	10 10
Dorset	1 1	Brecon	1 1
Durham	13 17	Denbigh	9 9
Essex	3 3	Flint	3 3
Gloucester	8 8	Montgomery	2 2
Hants	8 8	SCOTLAND.	
Hertford	5 5	Aberdeen	23 24
Huntingdon	3 3	Argyll	3 3
Kent	15 17	Ayr	17 18
Lancaster	39 41	Dumfries	4 4
Lincoln, Kesteven	4 4	Elgin or Moray	2 2
" Lindsey	6 8	Fife	6 6
London	1 1	Forfar	9 9
Middlesex	5 6	Haddington	2 2
Monmouth	2 2	Kirkcudbright	12 12
Norfolk	2 3	Lanark	12 12
Northampton	9 10	Midlothian	
Notts	9 10	(ex City of Edin.):	6 6
Oxford	1 1	City of Edin.	1 1
Salop	11 11	Nairn	1 1
Somerset	7 7	Perth	8 10
Stafford	24 25	Renfrew	4 5
Suffolk	4 4	Selkirk	1 1
Surrey	7 8	Wigtown	6 8
Sussex, East	7 8		
" West	3 4		
Warwick	9 10	TOTALS	532 569

* Number of bovine animals suffering from tuberculosis of the udder, tuberculosis with emaciation, or giving tuberculous milk, in respect of which notice of intention to slaughter has been received.

Salaries of G.V.S. in S. Africa.

A correspondent in South Africa writes us that the sums shown in the note at p. 227, Oct. 4, are incorrect, at least so far as South Africa is concerned, and points out that in an advertisement in our issue of May 4, 1912, the salary offered is to commence at £350, and to rise to £500 by annual increments of £15.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders† (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered.
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
Gt. BRITAIN.													
Week ended Nov. 29	18		19				3	6	26	35	17	63	462
Corresponding week in	1912	20		31			1	1	41	94	17	56	638
	1911	19		40			4	9			11	45	703
	1910		25		33		3	17			14	35	416
Total for 48 weeks, 1913	528		581		1	23	138	331	2207	4337	180	2335	29521
Corresponding period in	1912	701		794	82	639	165	304	2635	5554	255	2728	37312
	1911	829		1034	18	467	197	477			358	2277	27733
	1910		1343		1600	2	333	973			413	1395	13040

† Counties affected, animals attacked : London 6.

Board of Agriculture and Fisheries, Dec. 2, 1913.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders† (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered.
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
IRELAND. Week ended Nov. 29	...	...	...	...	...	...	...	...	...	...	12	1	...
Corresponding Week in	1912	...	...	...	...	...	...	...	1	13	2	17	...
	1911	...	...	...	...	...	...	...	1	5	5	3	...
	1910	...	...	...	...	...	...	...	...	14	2	106	...
Total for 48 weeks, 1913	...	...	...	...	...	1	1	...	112	474	130	847	...
Corresponding period in	1912	...	3	3	68	382	...	...	60	337	204	1652	...
	1911	...	9	16	...	...	2	3	54	309	148	2347	...
	1910	...	7	12	...	...	1	2	63	419	88	2073	...

* These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Dec. 1, 1913

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

REVIEW.

CLINICAL BACTERIOLOGY AND VACCINE THERAPY FOR VETERINARY SURGEONS. — By WILLIAM SCOTT, F.R.C.V.S. Pp. xvj. + 222. With 12 plates and 37 figures in the text. Price 7/6. net (Baillière, Tindall and Cox, 8, Henrietta Street, Covent Garden, London).

In one respect this book is a remarkable one. It is the work of a country practitioner who for some years has been carrying out the whole routine of vaccine therapy—including the preparation of autogenous vaccines—in his daily practice, and its aim seems to be to induce others to do likewise. Very few veterinary clinicians have yet attempted to work in this direction single-handed, and the book is interesting on that account.

For purposes of review, the work may roughly be divided into two sections. The first deals with laboratory apparatus and technique, the identification and cultivation of bacteria, the preparation of vaccines, and similar subjects. The only criticism that seems necessary here is that this section contains nothing new, and that the whole of its matter may be found treated in greater detail in so many other books that it seems a pity that it was allowed to occupy so much of this one. As it stands, it is necessarily condensed, and we doubt whether it would be found sufficient as a practical guide to those taking up the subject. On the other hand, its inclusion has led to the compression of the second and more original section of the work. This consists of a series of short articles upon different diseases in which vaccine therapy is, or may become, beneficial, and the list is a comprehensive one. Tuberculosis and its

secondary infections, distemper, strangles, pneumonia, bronchitis, tetanus, diarrhoea, and dysentery, pyæmic, and septicæmic arthritis, follicular mange, poll-evil, fistulæ of the withers and præsternum, endometritis, anthrax, and black-quarter may be mentioned as a few.

The author has had practical experience in treating most of these conditions with vaccines, and this summarised experience makes the real value of the book. Without entering into details, we may say at once that there is much in this section—especially with regard to dosage, and the combinations of vaccines and sera—that will be suggestive and helpful to practitioners interested in the subject.

In a future edition, we hope to see this section of the work extended, and at present the author may be thanked for helping to open up a new field to clinicians. There are evidences of hurried writing in the book, and there are portions which seem superfluous. But upon the whole it will be a real aid to any who desire to work along the same lines.

A JOURNAL OF ANIMAL PSYCHOLOGY.

We have received a prospectus, including some specimen pages and illustrations of a new German journal devoted to animal psychology. The title—*Tiersele Zeitschrift für Vergleichende Seelenkunde*—may be translated as—“Animal Mind. Journal for Comparative Psychology.” It is edited by Herr Karl Krall, of Elberfeld, a well-known student of the subject, and is issued by the publishing house of Emil Eisele, of Bonn. Four numbers, each of from 88 to 100 pages, will appear during a year, and the annual subscription will be 12 marks inland, and 14 marks if transmitted abroad.

The index and specimen pages before us include a good number of articles—many of them by doctors and professors—upon animal psychology, the protection and rights of animals, and similar subjects; and several of the articles treat of the “educated horses” of which so much has lately been heard in Germany. One feature of the work is a comprehensive bibliography of the subject; and the specimen illustrations are all good. To those who are interested in this very controversial subject and can deal with the German language, we should say the publication is well worth its price.

W. R. C.

“Post-Graduate” Dinner.

The members of the Post-graduate course entertained Sir John M'Fadyean and his staff to dinner at the Trocadero on the 26th inst. Mr. G. J. Harvey occupied the chair and proposed the health of the guests of the evening. The following were present:

Guests.—Sir John M'Fadyean, Messrs. Sheather, Knowles, Hayhurst, and Lander.

Members.—Capt. Collier, Capt. Rees-Mogg, Messrs. Dixon, Richardson, Poulton, Eadie, Penhale, Phadke, Gosling, Sheffield, Finch, Taylor, Shawcross, Grey, De Kock, Brookes, Fraser, Ward, Danbrey, Scott Moncrieff.

Sir Stewart Stockman, Mr. Cooksey, and Mr. Chamberlain, who sang some excellent songs, were also present as private guests.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, Dec. 2.

REGULAR FORCES. ARMY VETERINARY CORPS.

Major A. H. Lane retires on retired pay. Dated Dec. 3.

Personal.

Mr. E. NETTLESHIP, F.R.C.S., of Longdown Hollow, Hindhead, Surrey, who died on Oct. 30, left estate sworn at £26,768 gross, and £23,225 net. After the death of his wife he left certain legacies to relations and friends, and also the following charitable legacies payable after the death of his wife:—£3,000 to St. Thomas's Hospital for the creation or augmentation of a fund for the endowment of lectureships in the medical school, and £1,000 to the Royal London Ophthalmic Hospital. He also left a share of his residuary estate to the same charities after the death of his wife as follows:—If the ultimate residue of his estate exceeds £9,000, then £2,000 to the medical school of St. Thomas's Hospital for the same purposes as the above-mentioned legacy to them, and £1,000 to the Royal London Ophthalmic Hospital. If the ultimate residue is less than £9,000 but over £6,000 the share of the hospitals is to be reduced accordingly; but if it is under £6,000 the whole is given to relations of the testator.

OBITUARY

JOHN S. DRABBLE, M.R.C.V.S., Halifax, Yorks.
Graduated, New, Edin: May, 1900.

Mr. Drabble died at Halifax on December 1st, from influenza, with acute lobar pneumonia. Aged 37 years.

THOMAS FOWLER HUTCHINSON, M.R.C.V.S., Leyland, Preston.
Lond: April, 1865.

Death occurred on Nov. 27th from arterio sclerosis, terminating in cerebral hæmorrhage, at the age of 67 years.

JAMES ROBT. WHITTLE, v.s., Westgate-on-Sea, died on November 27th from rupture of aortic aneurism. Aged 72 years.

CANKER.

Sir,

I have bitten off more than I can chew. I thought that, on account of my note on the above disease, I might be called upon in the course of a few weeks to answer a stray correspondent as to how I treated my cases. Monday morning's post brought me thirty letters on the subject, and they are still arriving. The postman must think that I have started a matrimonial agency.

As I cannot possibly write to each of these numerous correspondents, I am having a leaflet printed, giving my views and mode of dressing, which I hope will be accepted under the circumstances as an answer. Many of the letters are most interesting, and I could not help thinking that it would be to the advantage of the profession if some of my correspondents would become occasional correspondents of yours. Two things are apparent. Canker is of much more frequent occurrence than most of us thought. None of the methods of treatment usually practised are effective in severe cases—that recommended by Mr. Malcolm is spoken of favourably in a few letters, but condemned in many others. The fantastic method of bits of rolled tow gets no support, and every correspondent who has tried arsenic internally found it useless.

Nitrate of lead, spirit and formalin, carbolic acid, dry dressings, iodoform, etc., all have for the most part proved unsatisfactory. In the course of a couple of months I hope to be able to state how the method that I have found successful is viewed by others.—Yours faithfully,

W. R. DAVIS.

ARSENIC IN TREATMENT OF CANKER.

Sir,

I notice that Capt. Hilliard, A.V.C., reports a case of canker which made a complete recovery under the treatment of arsenic. I also had a case in an Artillery horse at Meerut three or four years ago which made a complete recovery from canker under the treatment of arsenic, but after several months the disease broke out again and the horse had to be destroyed. I hope Capt. Hilliard will be more fortunate.—Yours truly,

GRAHAM REES-MOGG.

November 26.

“PROFESSIONAL”?

Sir,

I hope that you can find room for the enclosed cutting from *The Farmer and Stockbreeder* of December 1st, 1913. I should like to ask the members of the profession if they think they have reason to be proud of “Vet.” as a fellow member.—Yours, etc.,

COUNTRY PRACTITIONER.

Delayed Puberty (B).—Yes, there is a special method of operating on rigs, which you should learn as a castrator, or you are at a disadvantage compared with some others. There is an American book called “Animal Castration,” by Liantard, price 10s. 6d., published by Baillière and Co., Henrietta Street, W.C., which both describes and illustrates it. The odd testicle can often be got without this diving into the abdominal cavity, if the animal is chloroformed and the operator gets someone else to put his arm up the rectum and press towards the scrotum, while he works his hand from a backward position and brings along the testicle. You will better understand what is meant by referring to pigs, whose testicles can either be pushed up close to the anus or down some distance towards the navel, and can be taken out in either situation. You will no doubt have found one testicle in all sorts of odd places in the flank. Before you decide that the missing organ is inside, a full exploration should be made. Complete insensibility under chloroform relaxes the cremaster muscle, which may alone be the cause of the testicle being held up.

—VET

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1327.

DECEMBER 13, 1913.

VOL. XXVI.

PATHOLOGICAL OPPORTUNITIES.

English veterinary surgeons are notoriously averse to recording their experiences; and in one direction they are especially so. A good number of them are now engaged in meat inspection, but far fewer report their results here than abroad. On the Continent, reports from the abattoir are very common—sometimes in the form of a series of observations upon one condition, sometimes as reports of single cases of interest. Published with scientific detail in the journals, such reports are far more valuable than the bare official statistics of an abattoir; and they have helped the advance of pathology considerably. But very few veterinary sanitarians in this country follow the example of the Continental ones; and the fact that one or two have produced really valuable reports only makes the reticence of the majority the more regrettable. Some of our members are inspecting, and presumably studying, diseased meat and organs every day, and never think of recording these observations.

There has never been a time when our profession held so many special branches of work, each full of opportunities to the men engaged in it, as to-day. Preventive medicine holds many such opportunities apart from meat inspection, and the two diseases most recently scheduled are examples. We have previously called attention to the scientific possibilities of work under the Tuberculosis Order, and we all know that there is still a great deal to be learned regarding equine mange. Without dwelling upon such other special branches as tropical medicine, and our now highly developed Army Veterinary Service, we turn to private practice. The general practitioner's life holds as many opportunities to observe and report as any, though it is often difficult to utilise them. Some of the commonest conditions of everyday practice are precisely those which most require further study. Canine distemper, equine respiratory troubles, the bovine mammites, some forms of arthritis, and many forms of skin disease in all animals, are only a few examples. Every man who is making a living by veterinary work, whatever its nature, has many opportunities of independent observation which would enable him to contribute a little to our common knowledge.

WOMEN AND PRACTICE OF LAW.

From a report which appears elsewhere in our pages it will be seen that the Master of the Rolls, Lord Justice Swinfen Eady, and Lord Justice Phillimore, composing a Court of Appeal, have decided unanimously that women are disqualified from becoming attorneys or solicitors. The grounds of the decision were, briefly, that the common law of England is to a great extent based on long-continued usage; that up to the present time no woman has ever been admitted, and until recently none has ever applied to be admitted, to the profession of attorney or solicitor; and that, therefore, women are barred from the profession by the common law until the Legislature expressly confers the right upon them.

A RARE SKIN LESION OF THE HORSE SOMEWHAT RESEMBLING DERMATITIS ERYSIPELATOSA.

By W. G. BERRY, M.R.C.V.S.,
A. W. NOEL PILLERS, F.R.C.V.S.

The three accompanying photographs show a peculiar skin affection met with by one of us (W. G. B.) recently. The first picture is of the animal when the disease was at its height; another, an enlarged view of the lesions behind the shoulder and below the withers; and the third, the animal after the disease had completely disappeared for some time—about four months after the first photo was taken.

The subject was a brown cart gelding about 11 years old.

On June 2nd, the animal had a severe febrile attack which developed into double pneumonia. The case ran a critical course, but ended in gradual recovery. He was moved from the sick box into his own stall, where he remained for eight or ten days in order to be exercised, preparatory to resuming town work. The action of bowels seemed to be slow, and there was slight constipation, a dose of linseed oil (half a pint) was therefore given on June 21st. During the night of June 23rd, he was attacked by this peculiar skin rash. There had been no premonitory symptoms whatever. On examination next morning, there was slight fever, the temperature being 102.2° F.

There was marked swelling on the hind quarters, which were inflamed and sore. The inside of the thighs, just below the perineum were moist and steaming. The body was scattered with a great number of large, painful blotches as shown in the first picture. Numerous small, elevated areas were present on the lips and face. For about a week fresh areas become affected, the hair first became erect, then there was an accumulation under the skin of the diseased area. The size of the lesions varied from that of a shilling up to the palm of one's hand. In a few days the elevation of the skin became hard and dry, and crusts could be removed by the hand easily. Underneath the scabs or crusts was a slate-coloured pus-like fluid. Swelling of the dependent parts was marked, especially along the breast and abdomen. This gradually became absorbed. During the second and third weeks of illness the pulse became very irregular, but later became steadier.

Diagnosis.—The condition was never absolutely diagnosed; the food remained the same as other animals were getting. Examination of the lesions for acari and ringworm fungi was negative (A.W.N.P.)

Several members of the profession saw the animal and expressed different "guesses" at what it might be. It appears to resemble most closely the *Dermatitis erysipelatos* mentioned on p. 877 of Huttyra and Marek "Special Pathology," vol. 2.

Treatment.—The food given was light, such as hay, oats, and grass, when this is obtainable. Internal medicants consisted of iron sulphate and vegetable tonics in powder form. Several agents were tried on the skin to allay the irritation or soften the crusts, but not one of them seemed to have any beneficial effects. Eventually, all the dead material was removed by careful rubbing with emollients, and as no fresh lesions appeared, and the animal was greatly improved, he was turned out to grass on August 14th, well on the road to recovery.

On October 25th he was brought up from grass apparently in good health and clear of any abnormality of the skin, as he is shown in the third photo; the winter coat gives the animal a rough appearance.

The case appeared to us worthy of record, especially as we had obtained good photos.

A PUZZLE IN LAMENESS.

The case of lameness reported by Mr. Howard in your issue of the 5th inst., is unusual, interesting, and probably impossible to diagnose definitely.

The report states that the horse is perfectly sound in action until the pressure of the saddle or the weight of a man is placed on its back, and then it walks very lame, trots slightly lame, and gallops sound. From this it may be inferred that it is not the sternum that is affected, as the horse goes lame when ridden bare-backed, and consequently there is no pressure from the saddle girths. Again it may be concluded that it is not the weight of the man on the horse's legs, as the mere pressure of the saddle produces lameness. Therefore, the probable location of the exciting cause of the lameness exists within the limited portion of the horse's back which a bare-backed rider covers when on the horse.

Mr. Howard states that on manipulating these parts he did not discover any tenderness. I suggest that the pressure he used was not as great as that of the saddle, and certainly not as great as the weight of the man who rode the horse, or perhaps he omitted to examine the exact parts affected.

If the foregoing reasons and conclusions be taken as accurate, the fact that the horse was perfectly sound in action except when saddled or ridden, and then it became very lame when walked, but only slightly lame when jogged and went sound when galloped, might be accounted for as follows: If the horse were high-spirited or hot tempered—as under these circumstances the pain caused by the pressure on the back probably would be aggravated by the more rapid motion; thus the horse might yield to the pain caused by walking, but become so exasperated with the pain intensified by the rapid

motion as to be goaded to disregard the pain, and consequently to go sound.

Some years ago I had a case that this one reminds me of. The history of the case, as given to me, is as follows:

A valuable horse, when being hunted, was jumped through a thorn hedge. When brought home it was very lame, and several large thorns were removed from above its knees; one of the knees became much swollen, and the horse remained lame on that leg for a considerable time. The groom thought a thorn had remained in the leg; however, as the horse did not yield to pressure on any part of the leg he was put to grass for the summer, and when brought into the stable apparently was alright, and was again prepared for hunting. He was hunted for the greater part of the season, and went in his previous good form, but at the end of the season became restless when saddled and walked in a fumbling manner, but still hunted, although he was not found so pleasant to ride as before.

The owner consulted me about the case before putting the horse to grass; I did not see the horse, but as the owner said he was sure there was something wrong with the horse's back I advised him to put a strong blister on it; this he did, and a few weeks afterwards wrote to me saying that a nasty warble had formed on the horse's back, and asked me to come and see it.

On my examining the so-called warble I found in its centre a small orifice with a slight thin, dark-coloured, ill-smelling fluid coming from it. I cast the horse, dilated the orifice, and on probing found a hard object. I at once made a free incision and removed a thorn fully 1½ inches long; it was not covered with fibrous matter, and seemed quite the same as if it were only embedded in the back for a short time, whereas the probability is that it gained admission at the knee and travelled through the tissues to the back.

This case is not so mysterious as my friend Mr. Howard's, but suggests a possible solution of the puzzling element in the interesting case which he relates.

JAS. McKENNY.

VACCINE THERAPY IN PNEUMONIA.

With the approach of winter the practitioner may have many opportunities of studying the relative value of vaccines in pulmonary cases. A few observations now on this important subject may not be out of season. At the outset one must confess in studying the subject of the bacteriology of pneumonia as seen in the lower animals, a somewhat unsettled condition still exists, and from the vaccine therapist's point of view, this is to him a great misfortune, and a severe handicap to his endeavours when prophylactic and curative measures by vaccine are adopted.

Whether the case is an isolated one, and developing as a primary pneumonia, or whether there

be many, and appearing as sequels to such conditions as influenza, the bacterial invasion is usually a mixed one.

The complicated nature of the infection increases the therapeutic difficulties when it comes to making a so-called autogenous vaccine, but as difficulties were made to be overcome, these should not damp his ardour; on the contrary, they should stimulate him to increased effort. On the other hand we know the limitations of drugs in such cases, for after attending to the patient's comfort, placing him in hygienic surroundings, maintaining his strength with nutrients, administering bowel, kidney and cutaneous eliminators to get rid of ever accumulating toxins, we fall back upon the *vis medicatrix nature*, and not a single thing we can prescribe under this régime brings us into fighting line with the invading bacteria, except vaccine therapy.

This brings me to the interesting consideration, How do vaccines act in pneumonia? To understand the *modus operandi* with reasonable satisfaction one must become conversant with the pathological changes taking place in the lung parenchyma. The bacteria capable of producing pneumonia are many, and that several are saprophytes under normal conditions, may be taken for granted. The protective agents of the animal body are reduced in efficiency, and the bacteria present in the respiratory tract gain a footing; their growth is rapid, and the destruction of many of their number is equally rapid. In the former condition exotoxins (depending upon the kind of bacteria) are liberated, and in the latter endotoxins.

The irritation set up by these bacteria and their products causes pronounced capillary congestion. The pulmonary vessels are gorged with blood extremely rich in leucocytes, but now deficient in antibodies. As a result of traumatic tension, serous effusion takes place in the lung parenchyma which transplants the air in the vesicles. Solidification now takes place through coagulation of the fibrin, and entangled in the meshes of which are red and white blood corpuscles, cast off epithelial cells, and dead and living bacteria. Microscopically this condition is known as red hepatization. At this stage the circulation is much interfered with, the red corpuscles now lose their hæmoglobin, an increased number of leucocytes invade the lung tissue, with a consequent diminution of their number in the free circulation. Grey hepatization has now set in, and is the first step towards resolution.

An animal suffering from pneumonia clearly indicates that the phagocytes and immune bodies are deficient. There may be other forces existing to complete the immune rôle, but of these two we are certain.

We know of no reliable agent capable of stimulating phagocytosis, but we do know vaccines stimulate animal tissues in the production of immune bodies. It must be patent, however, that to obtain the maximum benefit from vaccine therapy, the vaccine should be given in the early stages of the

disease, in which case the course of the disease will be shortened. When consolidation has set in, the hepatized area is largely cut off from the free circulation; the bacteria are encased, so to speak, in the fibrinous meshes in the alveoli, and the fluids which bathe these areas have already had extracted from them any anti-bacterial powers they may have possessed. In this condition the blood may, in itself, be very rich in anti-bodies and yet remain—owing to the above condition—bacterially passive.

I do not suggest that the practitioner should withhold his vaccines when hepatization has set in. On the contrary, they should be administered at whatever stage the patient is found, for as soon as cellular degeneration and resolution set in the immune bodies can reach the isolated areas, and restoration will be all the more rapid when stimulation by vaccine has taken place. It is obvious that in an acute disease such as pneumonia one cannot get a dose of vaccine into the patient too early. It is, therefore, good practice to inject a stock vaccine at the outset, preparatory to the making of an autogenous vaccine.

In those cases where the "crisis" is delayed, a full administration of vaccine by elaborating the required anti-bodies, hastens the process.

The vaccine therapist in pneumonia has two pressing objects in view, *i.e.* (1) the annihilation of the invading bacteria. This we have seen is brought about by stimulating the tissues to antibody productivity, and so increasing the opsonins, agglutinins, bactericidins, bacteriolysins in the circulating fluids; and (2) the neutralization of toxins circulating in the blood.

Vaccines have been found to be only slightly anti-toxic, so it is probable that in a typical case of toxæmia, such a large dose of vaccine would require to be given before any pronounced anti-toxic effect was produced that nature would be unable to assimilate such a large dose, so to speak; the negative phase would be so pronounced, and consequent depression so great, that dissolution would be liable to follow. Theoretically speaking, an antitoxic serum is here indicated, and I have had to all appearances good results by giving a polyvalent anti-streptococcal serum where streptococci are much in evidence.

Unfortunately anti-toxic sera in these cases have considerable limitations, for it appears such sera possess no curative powers unless the serum derives its immune qualities, not only from the same bacteria it is called upon to fight against, but also the same strain, and as some bacteria have many strains, failure of a certain serum to be anti-toxic is easily accounted for. It is, therefore, imperative that the anti-sera must be polyvalent.

Considerable progress has recently been made in human medicine by the administration of *sensitized vaccines*, and I venture to think these will give us more powerful anti-bacterial and anti-toxic remedies than ordinary vaccines.

When a dose of vaccine is injected into an animal his opsonic index falls, presumably due to the gathering up of the free opsonin circulating in the

body fluids. In diverting the opsonins from the lungs, the focal lesions are aggravated, the bacteria now have more their own way, more toxins are thrown into the blood stream, the respiratory and cardiac centres are being actively poisoned as well as the heart muscle, consequently the temperature rises, the respiration is more rapid, and the heart's action is laboured. These phenomena are only temporary, varying from four to twelve hours. This is known as the *negative phase*. The opsonic index now begins to rise, the focal conditions improve owing to the bacteria in the lung centres being

invaded by this first supply of antibodies, less toxins are formed, and a general improvement has set in. This may be maintained for one, two, three or more days, and is known as the *positive phase*. After which a high plateau is reached, remaining stationary for two or three more days, when the full effect of the vaccine will have passed off. At this stage a second injection should be given, and a careful note of the symptoms again made.

WM. SCOTT, F.R.C.V.S., F.R.M.S.

Bridgwater.

A MONSTROSITY.

Two fore feet and a head were presented. The feet were secured, and although there was plenty of strength it was impossible to get the feet more than eight inches from the vulva. I felt the case hopeless, and accordingly I shot the cow. I did not see the specimen on post-mortem, but through the courtesy of a brother practitioner I obtained the accompanying photographs.

I might add that it can be readily seen that an effort had been made to dismember the fœtus, but nothing was more impossible.

Two heads, two necks, two thoraces, four fore legs, one rump, two tails, and two hind legs—a useful combination.

W. W.



ABSTRACTS FROM FOREIGN JOURNALS

PERFORATING ABDOMINAL WOUND WITH SUPERFICIAL INJURY OF THE INTESTINE IN A HORSE.

Ludwig Gruber records the case of a horse which was staked in jumping a fence, causing a wound which penetrated the abdomen in the right flank, and allowed the intestines to protrude. Gruber found the animal in a very agitated condition. He first pushed back the protruding intestine, washed the wound with creolin solution, and then covered the whole with wadding, over which he placed two superposed and tightly drawn roller bandages. The horse was then carefully thrown for a more accurate examination.

This revealed a lacerated wound running in the direction of the external oblique muscle. The portion where skin abdominal muscles and peritoneum were all penetrated, through which the intestines appeared, was about 2 2-5th to 2 4-5th inches long. From the end of the completely ruptured portion

for about another 3 3-5th to 4 inches towards the ribs the abdominal muscles and peritoneum only were lacerated under the skin. Probably the stake had first been driven forwards under the skin by movements of the horse, and while being disengaged had then been thrust inwards and backwards through the muscles and peritoneum.

Gruber exposed the whole wound by slitting up the skin, and, after careful cleansing, pressed back the intestine with a towel dipped in an 0.5 solution of creolin. At one place he found a superficial laceration of the intestine about 4-5th inch long, reaching as far as the muscularis. This he cleansed with creolin solution and painted with Lugol's solution. The edges of the wound were trimmed, and the abdominal muscles united with very deeply applied catgut sutures, Lugol's solution being then applied to both the stitches and the united wound edges. The skin was similarly sutured with silk. The whole wound and its surroundings were then painted with tincture of iodine and sprinkled with iodoform powder, a thick layer of wadding and the roller bandages were again

applied, and the horse was cautiously allowed to rise.

At first, Gruber directed the after-treatment with the view of averting peritonitis. He gave ol. ricini, used clysters of a very weak creolin solution, and strictly limited the diet, giving only a little milk now and then. Externally he applied cloths wetted with alcohol to the abdomen, screening them from the atmosphere with a superposed bandage, and changing them at intervals of from six to ten hours.

The temperature, which was 105.6 F. the day after the operation, had fallen to 101.6 F. on the fifth day. The general condition was then good, and all fear of peritonitis seemed to be over, so that Gruber discontinued the alcohol bandages, and went on treating the wound with dry dressings. On the sixth day he removed the sutures, retaining the roller bandages as a precaution. Recovery was rapid and uneventful, and was complete after about three weeks.

Nine months later the horse was still at work and doing good service. The strain of work had not induced a rupture of the abdominal wall, which had been feared.

Gruber remarks that he considers dry dressings (such as those of iodoform with which he treated the case from the first) are to be preferred to the free use of watery disinfectant solutions. His experience is that dry dressings cause the healing process to be more rapid and more certain than ointments.—*Munchener Tier. Woch.*

PECULIAR POLYCYSTIC LESIONS OF A BOVINE LIVER.

Echinococcic cysts are well known to be extremely common in the bovine liver. Several authors have also recorded serous hepatic cysts in the calf, which are considered to be congenital. Squadrini has also a case of polycystic hepatic adenoma, and Lisi found cysts in a cow's liver, which resembled those of echinococcosis, but contained eggs of distomata. L. Carhenez now reports a case which he observed in the abattoir, and which differs from all the foregoing.

The bovine liver in question weighed about 88lb., and its surface was very lumpy. Upon the surface, and within the interior of the organ, were a considerable number of cysts, varying from the size of a pin's head to that of an infant's head. All the cysts were monolocular, the majority had a whitish translucent wall, and at first sight they suggested a case of echinococcosis. But, when incised, they were found to contain a liquid which was sometimes whitish, sometimes reddish, or even dark brown, and this liquid, when centrifuged, showed no formed elements. No vestige of a parasite could be discovered, and the author concluded that the lesions were non-parasitic. He then carried out a histological examination of the tissues in the neighbourhood of both small and large cysts, and of other portions of the liver.

The histological results are reported in some detail, and are here summarised. All the cysts

were lined by a single row of cells analogous to those lining the bile-ducts, and the author infers that the cysts had originated in bile-ducts. The remainder of the liver showed a considerable amount of cirrhosis. The cirrhosis had certainly had its starting point in the portal canals, where it surrounded both the vessels and bile-ducts with concentric layers of connective tissue. From the portal canals the process had extended into the rest of the liver, sending strands of connective tissue between the lobules. The cirrhotic lesions around the vessels had affected the circulation of the liver, causing the formation of local areas of congestion; and the hepatic cells in some lobules, compressed by the distension of the capillaries, had degenerated or completely disappeared. In the latter case the tissue, under a low power, had the aspect of adipose tissue: and this was especially marked in some of the lobules underlying Glisson's capsule. Glisson's capsule itself shared in the cirrhotic process: and some strands of connective tissue from it had fused with those proceeding from the portal canals.

The lesions were clearly old ones, and the author found it impossible to demonstrate their cause. He says nothing of the condition of any of the other organs.—*L'Hygiene de la Viande et du Lait*

THE INFLUENCE OF AGE UPON THE ORIGIN OF CARCINOMATA.

Dr. Teilhaber, of Munich, recently delivered an address upon this subject in Vienna. His view is that the fewer the cells that are possessed by connective tissue, the more easily does epithelium enter into it. Young connective tissue is very rich in cells; on the other hand, the connective tissue of old people is poorer in cells.

The disposition of old persons to carcinoma is explained by this circumstance. A second factor is the poor blood supply of the tissues of old people, and a third is the increasing atrophy of the blood-forming organs in age.

But, according to Teilhaber's view, these factors only render the irresistible growth of epithelium possible when the connective tissue of the part concerned has for a considerable time been impaired by cicatrization, chronic inflammation, or other causes.—(*Münchener Tier. Woch.*)

LAPAROTOMY FOR TORSION OF THE UTERUS.

Knitl, of Neumarkt, very briefly reports a successful case of this operation. A cow was affected with torsion of the uterus, which rolling of the animal failed to rectify. Laparotomy was performed, and enabled the turning of the uterus to be effected within the abdominal cavity, and parturition followed. The membranes came away four days later. Healing of the abdominal wound and retraction of the uterus took place promptly. Knitl gives no details of the exact procedure followed in the operation.—*Munchener Tier. Woch.*

W. R. C.

ROYAL COUNTIES VETERINARY MEDICAL ASSOCIATION.

A general meeting was held on Friday, Nov. 28, at 10 Red Lion Square, London, when there were present: Messrs. David Wyllie, President; J. C. Coleman, P. J. Simpson, R. C. Tennant, J. S. Hurndall, S. H. Slocock, Geo. Upton, Capt. O'Rorke, and the Hon. Sec. and Treasurer, Mr. G. P. Male. Visitors: Messrs. Ivan R. R. Coleman and J. W. Hopkin.

THE LATE MR. WM. HUNTING.

The PRESIDENT said that before they began the business he would like to refer, for the whole of the Association, to Mr. William Hunting's death. He was an honorary member of their Society, and was always very enthusiastic, attending their meetings and doing all he could to help them in every way. They all knew his many good qualities—his geniality, his willingness to help them and the profession generally. He thought it would be becoming to the Association to send a letter of sympathy and condolence to the family, expressing their feeling of the loss they had sustained.

The HON. SEC. read a letter, dated Nov. 23rd, which he had received from Mr. G. E. King, of Abingdon, in which that gentleman said: "I am afraid I shall not be able to attend the R.C.V.M.A. meeting on Friday next. I am making fair progress, but not nearly so much as I could wish. . . . I should like you to bring forward in my name at the meeting, if you will, a resolution recognising the services that Mr. Hunting has rendered our Society, the loss we and the whole of the profession have sustained by his death, and move that a message of sympathy be sent to Miss Hunting. Mr. Hunting was a very old friend of mine. I think I have known him some 28 years, and I had the greatest admiration for his professional abilities and for his personal character. He was a loyal friend and a generous opponent, and was always ready to give his advice and support to any object for the advancement of the profession. I should also like to suggest that a sum to be decided by the meeting, if it approves of the idea, be subscribed from the funds of the Association towards the testimonial being raised to perpetuate William Hunting's memory."

The HON. SEC. seconded the President's proposition, and the same was carried in silence, all standing.

The HON. SEC. said he was not aware that Mr. Hunting was dead until he happened to see a note of it in a daily paper, and he immediately wrote to Miss Hunting saying the Association would like to be represented at the interment, and expressing their deep grief and sympathy. There was no time for the Association to be officially represented, but Mr. Slocock very kindly attended for them. They were therefore also unfortunately unable to send a wreath, as they would have liked to have done.

Minutes.—It was agreed, on the motion of Mr. J. C. Coleman, seconded by Mr. Simpson, that the minutes of the last meeting be taken as read.

Apologies for inability to attend were announced from Messrs. W. Shipley, J. McKelvie, Jas. East, E. J. Mellett, H. P. Standley, Prof. E. Brayley Reynolds, J. Willett, G. E. King, and Capt. Rees-Mogg.

THE INTERNATIONAL VETERINARY CONGRESS.

The HON. SEC. said he had received a letter from the Treasurer of the Congress in which he gave a list of the members of this Association who had promised to contribute, and of those who had paid. He saw that only a proportion of their members had subscribed, and the Treasurer said he would be pleased to receive any further donations to the fund.

New Members.—Mr. F. T. TREWIN, M.R.C.V.S., of Watford, proposed by Mr. Villar, and seconded by Mr. Simpson; and Mr. J. W. HOPKIN, of Henley-on-Thames; proposed by Mr. Male, and seconded by the President, were unanimously elected members of the Association.

ELECTION OF OFFICERS.

The PRESIDENT said he believed it was usual for the outgoing President to have the privilege of nominating his successor, and he had very great pleasure in proposing that Mr. J. C. COLEMAN, of Swindon, be their President for next year. (Applause). They had all known Mr. Coleman for years, and he knew no more enthusiastic member of their Association or of the profession. Although a very busy man, he thought his record of attendance at meetings would be as good as that of any member. He had on more than one occasion represented their Society at different functions. (Hear, hear). Mr. Simpson seconded the motion, and it was carried by acclamation.

Vice-Presidents.—Mr. Simpson proposed the re-election of Messrs WILLETT and HANDCOCK. Seconded by the Hon. Sec., and agreed to unanimously.

The HON. SEC. moved the election of the President to take the place of the retiring Vice-President. Mr. Green seconded.—Carried unanimously.

Mr. BROAD, of Marlborough, was chosen to be the other Vice-president, on the proposition of Mr. Coleman, seconded by Mr. Simpson.

Auditor.—The HON. SEC. said he had had a letter from Mr. A. L. Butters regretting very much that he was unable to attend that meeting, and adding that as his eye-sight was getting very defective he thought it would be well that they should change their auditor. He wrote expressing the hope that Mr. Butters would continue to act if possible, but he replied, "I have again considered the matter, and think it would be best for the Association to elect another auditor. I feel sorry to have to come to this conclusion, but under the circumstances I think it the best thing to do."

Mr. SIMPSON said they would all be very sorry to lose the services of Mr. Butters, but he proposed that his resignation of the position of auditor be accepted with regret, and that they express their very hearty thanks to him for the services he had given to the Association for many years. He (Mr. Simpson) was their secretary for seven years, and he always found Mr. Butters a most charming man to deal with.

Mr. MALE, in seconding, said Mr. Butters had always taken a very great deal of trouble in the work, which he had done thoroughly well. (Hear, hear.) He was one of the oldest members of the Association, and he was sure they were all extremely sorry that he was not able to continue his duties. (Hear, hear.)

The resignation was accepted, and the Hon. Sec. was requested to write Mr. Butters expressing the regret of the Association.

The HON. SEC. proposed with great pleasure that Mr. P. J. SIMPSON be elected auditor. Mr. J. C. Coleman seconded, and the resolution was carried unanimously.

Mr. SIMPSON thanked the meeting, and expressed his willingness to act.

Secretary.—The PRESIDENT said Mr. Male had done the work of Secretary and Treasurer thoroughly and energetically—indeed, practically all the work of the Association fell on him. He was sure they did not want any change, and he had very great pleasure in proposing that he be asked to continue in office. Mr. Male was a very busy man, but often busy men found most time to do those things—at any rate his work could not be done better. (Applause)

Mr. TENNANT seconded the resolution, and it was carried by acclamation.

Mr. MALE thanked the meeting very much. He was, he said, quite aware of all his shortcomings. As had

been said, he was fairly busy, and really felt that he had not enough time to do the thing properly, but still, if they were satisfied, he would continue. (Applause.) He would like to acknowledge the great help that Mrs. Male had always given him in the discharge of those duties—indeed she bore the brunt of the work, and but for her he certainly could not keep it on. (Applause.)

Place of Next Meeting.—On the motion of Mr. Allen, seconded by Capt. O'Rorke, it was unanimously resolved that the January meeting of the Association be held at Reading.

NOTES ON THE TREATMENT OF REMOUNTS

By Capt. F. C. O'RORKE, A.V.C.

Mr. President and Gentlemen,—Our most energetic Secretary, Mr. Male, who I am very pleased to see quite fit again after his recent attack of appendicitis, honoured me with the request to read a paper at this meeting. I replied that I would much rather listen to and learn from a paper read by some other member of our Association, but that if he experienced any difficulty in persuading one of you to come forward I would gather together a few notes on my daily work. These may be of interest to some of you. I hope they will bring forth a discussion, and also some useful suggestions from those who have had more experience than myself.

In dealing with the subject that I have selected, I propose to commence from the time that the young horse has been purchased, and deal with the measures to be adopted in order to prevent the occurrence or spread of contagious disease, bearing in mind that many of the horses are already infected prior to purchase.

The remounts which come under my supervision might be grouped into three classes:—

- (1) Officers chargers.
- (2) Troopers or riders, *i.e.*, riding horses for N.C.O's. and men.
- (3) Draught horses (light and heavy).

These three classes can be again sub-divided into different types according to the branch of the service for which they are purchased, *e.g.*, the Army Service Corps are now supplied with "riding" horses which can be used both for riding and draught.

Age. The age of the horse may be anything from four to seven, but the average is five years, and we very occasionally buy a horse three "off" or "rising" four.

Serum Inoculation. The purchase of the horse having been completed he is then inoculated subcutaneously with 30 c.c. of anti-strangles serum and arrangements made for his conveyance to the remount depôt.

The serum, a hyper-immunised horse serum, which is carefully prepared at the Army Veterinary School, Aldershot, and is issued in 30 c.c. phials.

The present method of serum therapy has only been in practice since October, 1913; prior to that date 10 c.c. doses were given—one at purchase followed by three more doses at intervals of a week. Although this treatment decreased the number of cases of strangles and catarrh and the severity of these diseases it did not give such good results as one might have expected. The following statistics are taken from the Annual Statistical and General Report of the A.V.S.:—

ANTI-STRANGLES SERUM.

	1910	1911*
Inoculated	1200	2839
Affected—Catarrh	81	424
Strangles	99	205
Not affected	977	2100
Joined depôt or unit		
affected—Catarrh	35	88
" Strangles	8	22

* The trial of this serum has been continued during the year (1911), but owing to abnormal purchasing of remounts, demands could not be met, and the serum had to be temporarily discontinued during October and November.

Nasal Catarrh.—This is a disease which gives an enormous amount of trouble in a remount depôt, especially amongst the horses which have been purchased in Ireland. One frequently finds at the time of purchase that some of the horses are already suffering from slight catarrh or have recently recovered from strangles, and a large proportion of the remainder, although showing no symptoms, have probably already been in contact and possibly infected.

Let us look back for one moment to the chain of events through which the remount from Ireland has recently passed before arrival at the depôt. Picture him back at his home on an Irish farm in fat, soft condition. From here he may have been taken twenty or thirty miles into a South of Ireland fair, probably in wet weather, too. He was then waited about in the fair, been galloped several times by intending buyers, then having been sold he has to stand about in the streets until his new owner (the dealer) is ready to put him on the train with his other newly purchased horses. During the day he will have had little or nothing to eat. He is then sent up country in a truck to Dublin, or further north, and eventually arrives at his new stables tired and hungry. Here he is crowded up with other horses and overfed. He is next seen by the Army purchasing officers, examined and galloped again. Then his trying journey to England commences, which frequently takes as long as 48 hours, more than half of this time being spent in an open railway truck. On arrival at the remount depôt he looks dull and "tucked up," his vitality has been lowered. Is it any wonder that he develops catarrh or strangles after the severe time he has had and the many sources of infection through which he has passed?

Arrival at the Depôt.—All the horses on arrival are inspected, and if found to be suffering from catarrh, strangles, or ringworm, etc., are picked out and segregated in stables set aside for the treatment of these diseases. The remainder, which are apparently free from disease, are put into other stables which we term the "reception" stables, where they remain until it is considered safe to move them into the main depôt stables. After being watered, fed, and bedded down, they are left to accustom themselves to their new surroundings.

A few hours later each horse's temperature is taken and recorded, and those with a high temperature, or any which have not "fed up," are given a dose of sulphate of magnesia, their throats rubbed with liniment, steamed hay and warm feeds are given. Those which show signs of pharyngitis and laryngitis are given chlorate of potash in their drinking water, in addition to having their throats rubbed with liniment.

The catarrh cases, which have been put into the "catarrh stable," are similarly treated; and the strangles cases, if any, have a damped pad of cotton wool applied to the submaxillary and parotid regions, which is retained in position with a many tailed bandage. The temperature recording is continued for the next few days, and any horse in which a high temperature persists for some hours after arrival, is removed to a loose-box, which is often sufficient to bring the temperature down without further treatment.

Now with regard to the method of feeding on arrival. Many Irish dealers recommend that the horses be fed from the floor instead of mangers, assuring me that by adopting this position that attacks of catarrh are lessened in severity and duration. The explanation being that the nasal discharge escapes more readily, or is more easily expelled whilst feeding in this position.

I cannot say that I have much faith in this belief, but one must not forget that it is the natural position, and also the one in which a horse when suffering with a sore throat will hold his head. I only partially adopt this method by giving the hay feed from the floor, especially when steamed, but occasionally I find the horse will feed better from the manger.

By now the horses, theoretically, have acquired a certain amount of immunity against catarrh and strangles, having a few days previously received 30 c.c. anti-strangles serum. But if a horse is noticed to be developing either of these complaints, and looks like giving trouble, I inject another 10 c.c. of serum.

[Capt. O'Rorke then briefly discussed the uses of vaccine therapy.]

The next important procedure is to prevent the horse developing ringworm, a disease which is very prevalent amongst remounts. For this purpose I use one of the following solutions :

1. Calcium sulphide.
2. Caustic potash.
3. Washing soda.
4. Paraffin emulsion.

Of these preparations I think the calcium sulphide is the most reliable when properly used. But it must be used carefully where the skin is thin between the fore legs and inside the stifle. It can be applied with a spray, or sprinkled on and well brushed into the coat ; I find the latter the better method. With a fine skinned horse or one just clipped the solution must be made weaker, or it may blister the skin. After application, the horse is not groomed for four days. It should then be brushed or washed off, the latter being the easier method, unless the horse has a thick coat, which will be difficult to dry. But it is no easy matter and a rather unpleasant task to groom it off. Although unpleasant to use it is very efficacious not only in ringworm, but also in dealing with lice, psoroptic and symbiotic mange. It must be applied thoroughly, and is better if freshly made. Two applications are sometimes necessary.

2 and 3. Solutions of caustic potash or washing soda are useful and quite efficient in fine coated horses. They are also very useful for scrubbing clipped horses which are found after clipping to be covered with pimples. They assist in removing the dirt and scurf, and dry up any small eruptions which one so frequently finds in horses brought up from grass. The 3 per cent. caustic potash solution readily cures ringworm if applied twice daily for a few days ; it has the advantage, too, of being very mild treatment. Many of the usual remedies are so severe that they make the case look much worse before it is better, and keep it on the sick list longer than necessary.

4. Paraffin emulsion is fairly good as a preventive to ringworm, but if not used with care is inclined to make the coat very scurfy.

Testing with Mallein.—On the second or third day after arrival the horses, if feeding well and temperature remaining normal, are tested with mallein. It is seldom that they do not pass the test but occasionally one meets with a doubtful and unsatisfactory reactor. Several I have had to re-test three times before deciding their fate. Two of these eventually had to be destroyed. At the post-mortem examination they showed very slight pulmonary lesions, but the diagnosis was confirmed later when the bacillus mallei was cultivated from material obtained from the lungs.

Shoeing.—Another important item is to attend to the horses' feet. Their hind shoes having been removed for travelling in trucks, the feet are frequently very much broken, and a certain number of them arrive lame or foot-sore. The front feet, of course, require attention too—the feet are often dumped, and the periople invariably rasped off.

I must now conclude by thanking you for the most attentive and patient way you have listened to my efforts to interest you this evening.

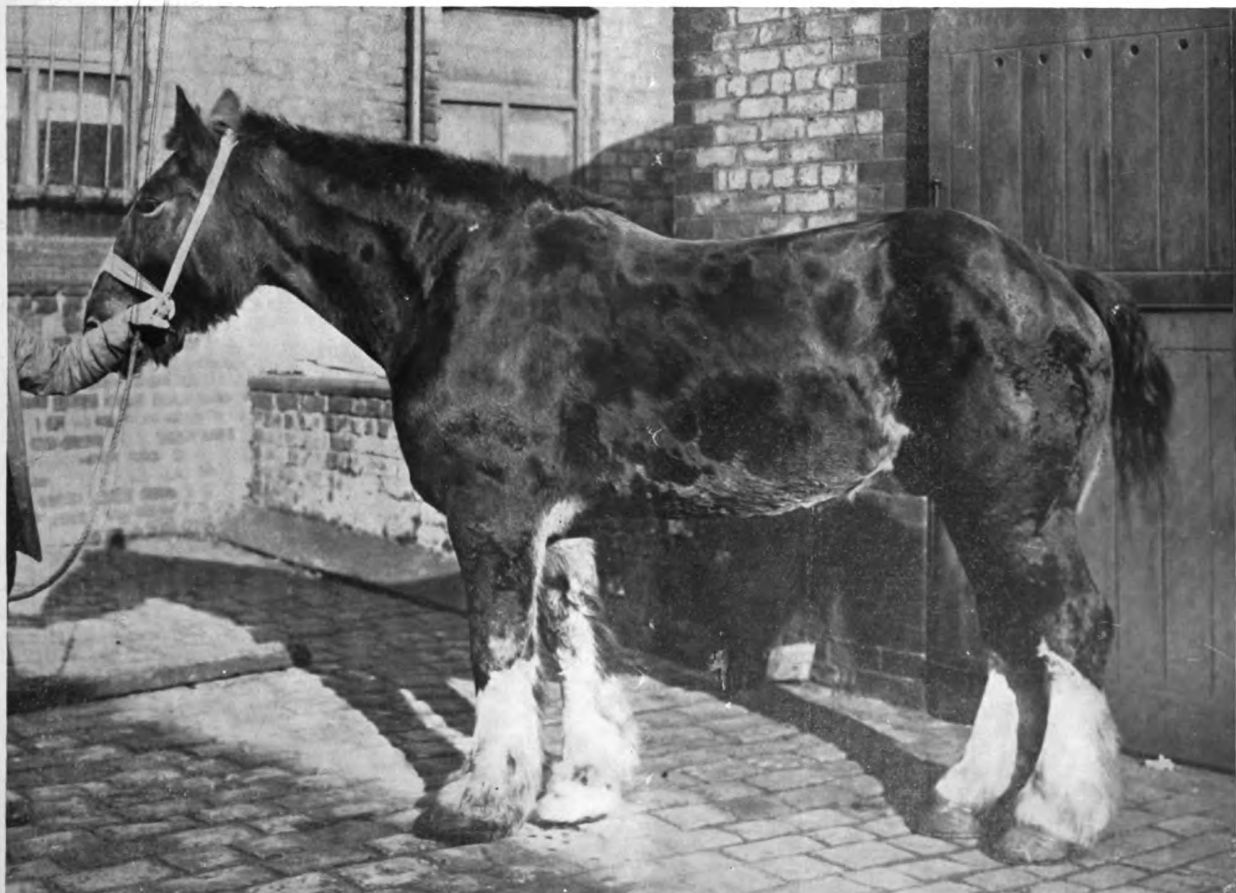
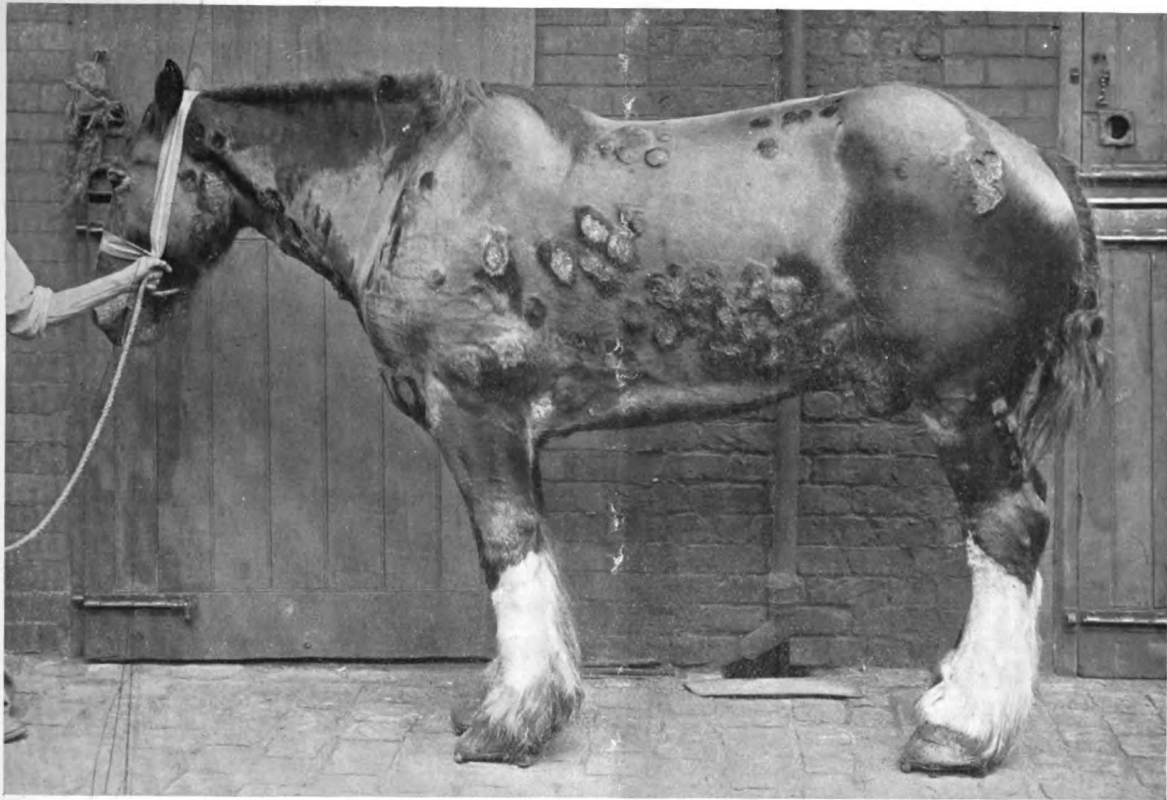
DISCUSSION.

The PRESIDENT was sure they had all listened with great pleasure to Capt. O'Rorke's very able paper. (Hear, hear.) The use of mallein was known to them all to be very interesting, and sometimes very puzzling. Capt. O'Rorke said that in his treatment of strangles he was placed in a very favourable position as compared with the private practitioner, who very often would not be able to carry out the treatment in the way he did, which was more the pity for the private practitioner.

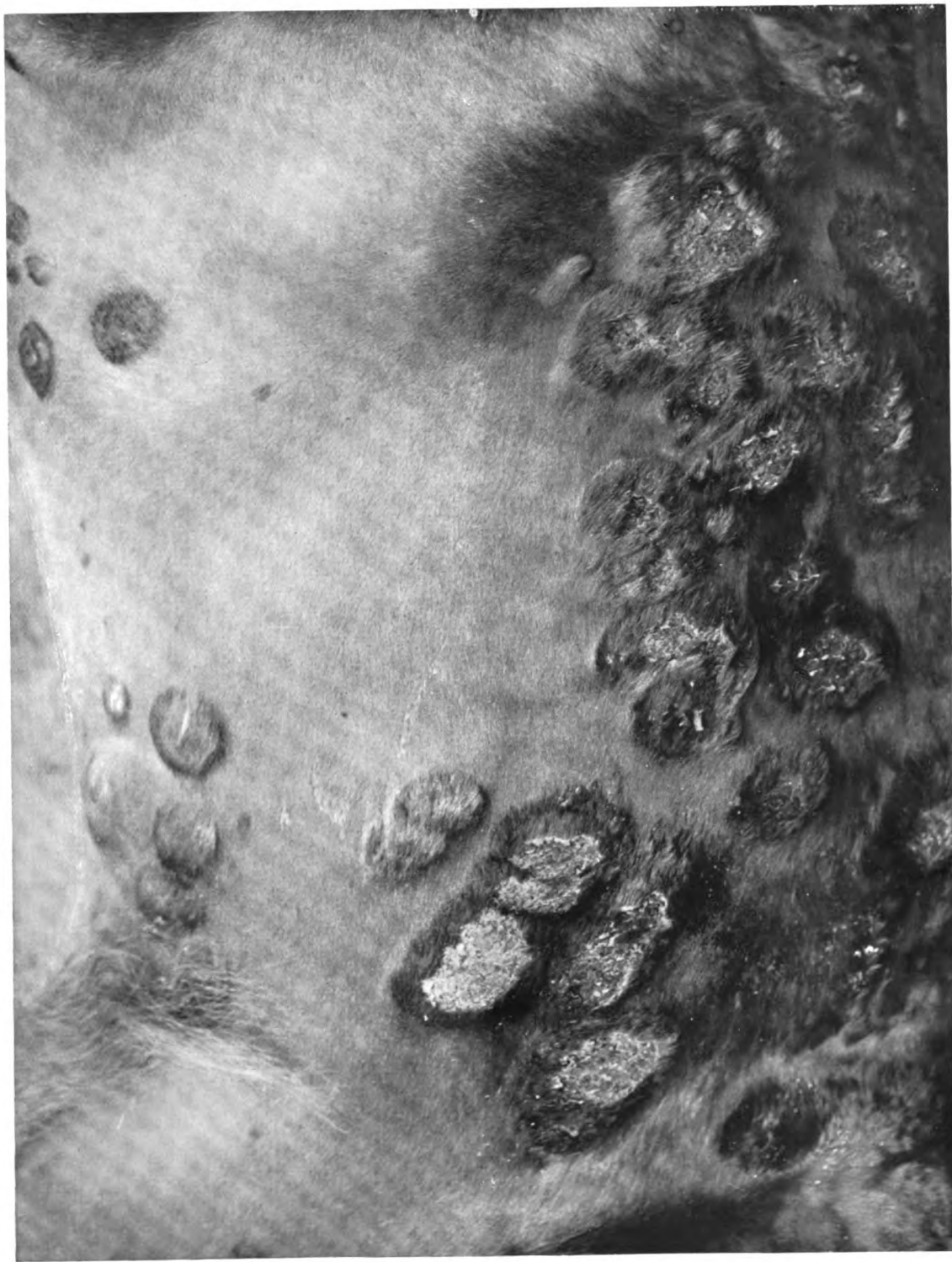
Mr. SLOCOCK : He was an Inspector in Middlesex, and in their early days those inspectors were very much indebted to the late Mr. Hunting for the assistance he gave in post-mortems, for he was always ready to help his neighbours. (Hear, hear.) In some cases he (the speaker) had had no temperature reaction twice ; in others no local reaction at all, but these horses had "been in bad company," and in many of these cases he therefore had reason to suspect glanders. In many of those cases post-mortem lesions were very well marked. The extent of the reaction to mallein in no way indicated the extent of the lesions present. They could get really a nice glanders post-mortem in a case in which they had had very little elevation of temperature. He (Mr. Slocock) had the very first test of mallein that ever came into this country in his practice. He had a horse with a lesion in the face, and he felt satisfied it was a glanders lesion. He got the indurated gland, and went to the College and mentioned it to Prof. Penberthy, who brought a dose of mallein which he injected, and gave him instructions as to when to take temperatures, etc., and afterwards he (the speaker) was able to say that that horse gave a very typical reaction. It belonged to a market gardener ; it was isolated in the stable, and worked by himself in his own cart and harness. He received three doses of mallein at different periods, and apparently made a perfect recovery. Eventually he got back into his team, and worked from Feltham to Covent Garden regularly until he became a pensioner, and the ultimate cause of death was a twisted gut. They might take it for granted that that horse was cured of glanders. He himself believed that mallein was a curative in some cases—but in some only. Dealers were, to his mind, men to be taken note of, for they had had vast experience. He thought there was a great deal in the idea that affected horses should be fed from the ground. Many dealers would not buy a horse from Ireland except in the summer months. If a batch of horses had been travelled together they could be turned into the same field, and left out for ten days or a fortnight, and there was very little trouble with them. Even with valuable horses he thought that was worth all the risk.

We seemed to get more ringworm from Ireland than from anywhere else, whether in horses or in cattle. For that complaint he believed they got the best results from using a greasy dressing—vaseline was good used alone. One of the best dressings he knew for confluent ringworm was mercurial ointment and soap worked down together, which was scrubbed in and left on for five days. Nothing survived that, except in the parts which the dressing had not thoroughly reached. That dressing was recommended him by his friend, Mr. Willett.

Mr. TENNANT added his thanks to Capt. O'Rorke for his very interesting remarks ; and went on to ask him a few questions on his paper. He thought they might take it that the serum treatment was not satisfactory on the whole, but that it was so in those cases that developed strangles and catarrh, which were milder on



A RARE SKIN LESION, *Note by Messrs. Berry and Pillers.*



Lesions behind shoulder. (Enlarged).
A RARE SKIN LESION. Note by Messrs. Berry and Pillers.

the whole, and of shorter duration. He would also ask whether age had any influence in the cases—whether young horses were proportionately more affected?

With regard to Mr. Slocock's remarks about parasitic mange, he (the speaker) generally washed the horse all over, first, with ordinary washing soda, got him dry, and then lathered him all over with mercurial soap, leaving that on a week, and then brushing it off.

As to the mallein test, some years ago he had seven or eight horses react to mallein, two of which were kept and tested once a month for six months, when they ceased to react, and he destroyed one. The other seven were all killed by order, and although he sent a special request, he was not allowed a post-mortem on one of them.

[The President being obliged to leave the meeting at this stage, Mr. J. C. Coleman took the chair].

Mr. SIMPSON said they ought not to let their President go without thanking him sincerely and heartily for the way in which he had conducted the business of the Association during the year. (Hear, hear).

Mr. SLOCOCK seconded. They had, he said, been most happy in their selection of a President for the past year, and it had been a great pleasure to them to sit under such an amiable and affable gentleman. (Applause).

The vote was carried by acclaim.

Mr. WYLLIE thanked those present very much for their kindness. Anything he had been able to do had been a pleasure. He hoped the Association might go on and prosper, and that the future meetings might be better attended. (Applause).

Mr. J. C. COLEMAN, from the chair, said he had a good man to follow, and he thanked them for putting him in the position. He would like to thank Capt. O'Rorke for his very interesting paper. The large percentage of cases affected seemed unsatisfactory, but when they considered the nature of the disease and the number of horses coming over, it was easy to realise that one case of strangles might affect the lot. With regard to ringworm, he had found calcium sulphide very successful, but rather irritating. The preparation he used with great success was diluted nitrate of mercury in conjunction with chrysarobin. His objection to Mr. Tennant's method of washing all over was that he had found that the less they did in disturbing the sites of affection the better, and he thought that washing rather disseminated the disease.

Mr. HOPKIN considered the best way of treating parasitic mange was to prepare the skin, for which he used "Rinso" (Hudson's) with a couple of ounces of Lysol in the bucket. Then he used mercury and soap, but not with the success of which Mr. Slocock had spoken. If they got all the scurf off, he considered one or two dressings at the most a certain cure, with a preparation containing mercury ointment and oleic acid.

Mr. UPTON related a case of poisoning among calves dressed over with mercurial soap for ringworm. This was done by the owner contrary to his advice, and when called in he found a number of them dead and others in *extremis*. He showed how difficult it was to eradicate ringworm from premises occupied by cattle. Even if carefully disinfected the disease was sure to recur.

Mr. MALE thanked Capt. O'Rorke personally for giving his paper, thereby helping him out of his difficulty.

As to strangles, he had been trying himself to find something which would prevent that disease in horses. Capt. O'Rorke's preventive measures were evidently good. Was the serum he used the antistreptococcus serum? What did he consider to be the period of incu-

bation of strangles, and when would he consider it safe to remove horses from the reception stables?

With regard to skin diseases, were they all talking of the same disease? Evidently they were not. Some people could cure horses affected with mange with one dressing, but he had seen cases that had never been cured. He hoped that somebody would read a paper very shortly on the different diseases which affected the skin of horses. (Hear, hear).

He had always looked on ringworm as more or less of a local disease. If it was a local one, why was a horse washed all over? Were they talking about a contagious disease which was called American pox, or German pox, which they got among remount and dealers' horses? It is characterised by an exudate and the hair coming off in little round patches, usually on the quarters, but all over the animal in some cases; the hair after a time begins to grow again even without treatment. He had found mercurial soap very good in the treatment of mange.

Mr. SIMPSON would like to ask Capt. O'Rorke if, in his opinion, sufficient doses of the serum had been used, as he said that the dose had been greatly increased latterly. He had himself found polo ponies from Ireland troubled with some disease which was certainly not strangles, but was apparently a form of influenza. It had struck him whether a larger dose of serum would not be more valuable in the case of animals five years old and upwards. If horses had been issued to a unit, were they again treated with serum? With regard to the dressings for mange, he had tried some of them, but had failed to find one that would cure a good case of parasitic mange in one dressing. Those cases generally came under his observation as an Inspector, after they had been "spotted" by a policeman in the street, and it was generally two or three months before one cared to declare the animal free.

Mr. HOPKIN added that a mare that had been treated for three months with various dressings, was cured with one application of the dressing he had mentioned.

Capt. O'RORKE replied on the discussion. He much appreciated what Mr. Slocock had said with regard to mallein. He (the speaker) frequently got a case like the one to which he had referred. Among 50 or 60 horses they frequently got one which looked splendid at the beginning of the test. A little while ago he had to test 200 horses twice, some of them having been in contact with a case of glanders, and cases of glanders had not occurred amongst them. They put aside about five out of the 200, and re-tested those again. A London Inspector came to see them, and one was destroyed, but they found at the post-mortem two nodules in one lung and one in another, which was very disappointing. He had had two similar cases since he had been in his present appointment. He had to keep his horses at first in the reception stables. In reply to Mr. Slocock, who said ringworm resembled mange, in the cases of ringworm he got, there was no irritation whatever. He was speaking more or less of preventive methods when he spoke of calcium sulphide. His idea was to keep disease out of his depot, and so he dressed a horse over with calcium sulphide. He used $\frac{1}{2}$ to 1 pint for a horse. As to vaseline and treacle, dealers had reported to him that they sometimes had cured with plain lard, but he had never heard of treacle being used for this purpose. Sometimes it was very easily cured, sometimes not. He certainly thought that age had a lot to do with strangles, although he occasionally had seen old horses with strangles.

Mr. J. C. COLEMAN thanked Capt. O'Rorke for his very interesting paper, and proposed a hearty vote of thanks to the essayist.

This was seconded by Mr. Male, and carried with acclamation.

SPECIMENS.

Mr. HOPKIN showed two specimens which proved of considerable interest to the members. One was a calculus which he had cut from the cheek of a cob, above the fourth upper molar, and which was most unusual both for its size, shape, and position; the other being part of the heart of a cob in which, on post-mortem, he had found a large vegetative growth attached to the tricuspid valves.

Mr. Hopkin was cordially thanked, on the call of Mr. Male, seconded by Capt. O'Rorke, for bringing his specimens forward.

The members were then served with tea, at Mr. Male's kind invitation.

G. P. MALE, Hon. Sec.

NORTH OF IRELAND VETERINARY MEDICAL ASSOCIATION.

A general meeting was held at the New City Abattoir, Stewart Street, Belfast, on Friday, the 31st October, when the chair was occupied by the President, Mr. J. A. Jordan, M.R.C.V.S., City Veterinarian. The following members were present: Messrs. J. J. Ross, J. Gregg, J. M'Lean, A. Stringer, and J. Ewing Johnston, Belfast; J. M'Aleer, Portadown; Samuel Little, Dungannon; Jas. Devlin, Coalisland; W. S. Lamont, Cookstown; W. C. M. Smith, Newry; J. A. Thompson, J.P., Lurgan; A. J. Logan, Ballyclare; H. M'Connell, Armagh; A. M. Crichton, Lisburn; J. A. Gault, Ballymoney; J. W. Peatt, Cootehill; J. W. Morrow, Coleraine; J. Kernohan, Ballymena; F. R. M'Roberts, Comber.

Visitors: Messrs. J. Purdy, Belfast; M'Guinness, B.A., E. W. Little, H. Hannan, P. W. D. O'Connell and J. M'Enamin, of the Department of Agriculture, and Prof. Hobday, London.

Apologies for inability to attend were received from Messrs. J. B. Dunlop, Alex. Munro, T. C. Taylor, and J. C. Kyle.

Before proceeding with the ordinary business of the Association, the President said it was his pleasing duty to extend a very hearty welcome to our distinguished visitor, Prof. Hobday, as it was not often that we were favoured by the company of such an eminent member of the profession. It was very kind of the Professor to come and give us an interesting lecture and practical demonstration, and he was sure they would all appreciate it.

On the motion of Mr. Ross, seconded by Mr. Thompson, the minutes of the last meeting, as published in *The Veterinary Record*, were taken as read.

New Member. Mr. E. W. LITTLE, D.A.T.I., was proposed by the President, and seconded by Mr. J. Ewing Johnston.

Correspondence. The Hon. Sec. submitted a letter received from Mr. W. Shipley, Hon. Sec. to the Victoria Veterinary Benevolent Fund, asking for a continuance of the Association's support. Messrs. Thompson and Jordan having supported Mr. Shipley's appeal, Prof. Hobday said, if permitted, he would like to mention how sorely they were in need of financial aid, and how impossible it was for them to meet the many necessities so constantly being brought to their notice, and while very grateful for the support already given, it would be very pleasing to them to see Ireland's contribution increased. The Treasurer was authorised to forward the usual subscription to Mr. Shipley.

"SOME ABNORMALITIES MET WITH BY THE CRYPTORCHID OPERATOR."

Address by FRED. HOBDAY, F.R.C.V.S.

(The lecture was illustrated by about 20 photographs or drawings; these were not only of great interest from a pathological point of view, but were really works of art.)

The lecturer said that he ought first to thank the Association for having accorded him the honour of presenting his paper, and secondly he had to congratulate them in the lead they had given to other similar societies in the British Isles in the fact that they were permitted, through the influence and kindness of their President, Mr. Jas. A. Jordan, to hold their meetings in that building. It was an example which ought to be followed in every town in England where such a building existed.

Cryptorchidism was a subject full of interest to every one who had to do with castration, and to every member of the profession who intended to become a specialist it was one of the things that would always loom in the forefront. The abnormalities of cryptorchid work were more in variety than those met with in any other operation known to veterinary science. He would show them that night a number of photographs, taken from actual specimens, and every abnormality he would speak of he had met with himself during the course of some four or five hundred operations. The study of such abnormalities was both interesting and instructive. To the enthusiastic "rig" operator there was nothing more fascinating than to be presented with the abdominal surface of a colt, the scrotal portion of which presented an even surface unmarked by any suspicion of scar, and whose history, until it had come into the possession of its present owner, was practically untraceable. Even the presence of a scar might mean nothing other than that an attempt at castration had been made and failed, or perhaps it had been made fraudulently, whilst a careful digital examination revealed that nothing solid could be touched. Extreme reticence was wise, and even after a most careful examination an experienced cryptorchid operator usually gave his opinion cautiously, because in some cases what was thought to be testicle might turn out when cut down upon, to be merely an enlarged or varicose vein, or perhaps the epididymis or spermatic cord. The old adage, "things are not always what they seem," applied more to cryptorchid operation than to any other operation in veterinary surgery. There was no operation which veterinarians were called upon to perform which could be so truly likened to the "lucky dip" at a bazaar.

With the various methods of operating and sites selected for the preliminary incision they were already familiar, and he would here confine himself solely to the abnormalities which might be met with, for it was there that the operator had his chance for displaying common-sense and, above all, coolness in an emergency. The latter qualification was essentially necessary in "rig" operating, for when once the abdomen of a big animal like the horse had been entered, it was essential that every precaution should be taken to avoid accident and to restore the abdominal wall to its previous condition as far as was surgically possible.

Every "rig" presented some abnormalities, otherwise the services of the specialist would not be called in, and he purposed to deal with these under three heads:—(1) Abnormalities of the inguinal testicle. (2) Abnormalities of the testicle found in the abdomen. (3) Absence of testicle.

Of course the history of the colt should first be investigated, but too much stress should not be placed upon

that history, for it was often unreliable. As a rule it would be found that the animal had been purchased at some sale or market as a gelding, the owner not finding out his error until he reached home and certain troublesome tendencies were revealed; or it might be that the colt was sold straightforwardly as a "rig," and the fact—or otherwise—known that one testicle had been removed. In regard to the latter the cryptorchid operator should be careful not to be misled.

On several occasions it had been his lot to find the missing testicle on the side from which both the owner and the local veterinary adviser had emphatically asserted that it had previously been removed. It was easy to forget these things unless a written note was made at the time, and the operator should always finally fall back upon his own examination. A careful digital examination, with the presence of a scar, would generally reveal whether or not the inguinal canal contained the cord from which the testicle had been removed. Great care, however, should be taken not to mistake this for an enlarged or varicose inguinal vein, which, if punctured, would give great trouble and cause dangerous hæmorrhage. After making the incision through the skin, a search up the inguinal canal might reveal a small and elongated testicle, or perhaps one of almost normal size. Here experience alone determined whether what was removed was epididymis or the complete organ. He frequently came across cases in which the epididymis was in the canal and the body of the testicle was in the abdomen, and if the former only was removed the horse would soon "rig" again. If it were possible, the body of the testicle should be drawn into the canal, or the epididymis put back into the abdomen, when the two could be included in the chain of the ecraseur at the one time; but that was not always possible, and each might have to be taken off separately, the epididymis from the canal, and the body of the testicle from the abdomen. It was not common to meet with cysts, teeth, or other abnormalities except deviations from the normal in size and shape, in purely inguinal testicle. Nature reserved those for the abdominal specimens.

ABNORMALITIES OF THE TESTICLE FOUND IN THE ABDOMEN.

Here curiosities were often met with, for the testicle might be as small as a filbert or as large as a Rugby football; it might be as hard as a bullet or as soft as a balloon, and its interior might contain almost anything—hair of various colours (generally black or brown), bone, perfectly or irregularly shaped molar or incisor teeth, cystic fluid, the *Strongylus armatus*, or tumour tissue. He had personally met with all these, and in a specimen obtained recently the one testicle contained everything enumerated except hair. The tumour tissue might be fibroma or embryonic, or it might be sarcoma, whilst one specimen, which the curator of the museum of the Royal College of Surgeons (Dr. Shattock, F.R.C.S.) gave him to understand was unique in either man or animal, contained a lipoma.

For the withdrawal of the fluid from the cystic portion, he had had a small cannula made with sharpened edge and with a long piece of tubing attached. This he sterilised in the usual way, and introduced into the abdomen in the hollow of his hand; it was a simple and useful contrivance. But without it the operator need not have any hesitation about scratching through the cyst wall with a finger nail, and thus allowing the contents to escape into the abdomen. This he had done fully a dozen times, and neither peritonitis or other trouble had followed. He concluded, therefore, that the contents of the cyst were aseptic.

ABSENCE OF ONE OR BOTH TESTICLES.

Such cases, of course, were rare, but an operator who had many cases of "rig" horses was bound to meet them

on occasions. He himself had had practical experience of such in three cases. One was the case of a valuable racehorse. The animal was a true anorchid, the ends of each cord terminating close under the loins in a small bulb of fat. The facts of this case were verified on post-mortem examination by Prof. M'Fadyean.

In another instance, a monorchid cart colt, the right testicle weighed 12½ ounces, and was quite twice the normal size, whilst on the left side the cord terminated imperceptibly into the peritoneum, there being no sign of any testicle or epididymis.

In conclusion, the lecturer said that he had dealt with the chief abnormalities which the cryptorchid operator had to bear in mind, but in all cases a successful sequel was possible, provided proper precautions had been taken in the operation, and careful attention paid to all the antiseptic details. He could not too strongly enforce upon their attention the necessity for the latter. For his own part, he had great faith in iodine as an antiseptic. This was a revival of a method adopted by old farriers years ago as an antiseptic in the case of wounds. He usually painted the part to be incised with a tincture of iodine and allowed it to dry. In the last three years he did not think that he had washed a single horse before operating.

At the conclusion of the lecture, on the invitation of the Chairman, questions were asked by Messrs. Kernohan, Ballymena; Thompson, Lurgan; Crichton, Lisburn; and Gault, Ballymoney.

Prof. HOBDAY, in reply, said that most of the queries could be best answered at the operation. He would be glad then to explain anything he had not made clear. One learned more from a practical demonstration than from many lectures.

In reply to Mr. Crichton, he said he preferred the tincture of iodine to the liniment; the latter was liable to blister.

It was suggested by Mr. Ewing Johnson that Prof. Hobday should give some particulars about "Roarers." In response to this, the Professor said he was afraid that that was rather an extensive subject. Personally, he had now performed the operation on 807 individual animals. He had followed up 100 of these year by year, and some of them had now passed the fourth season without a return of the complaint. In fact, most of them were still running, and he had not a single unpleasant letter from an owner. Ten per cent. of the cases had become sufficiently sound to be passed by the average veterinary surgeon, and he was prepared to say that—let the cases be as bad as it was possible to find—after the operation, eighty per cent. of the hunter class would become useful horses, and work without distress; and in the case of comparatively slow working carriage or cart horses, he would put the percentage as high as ninety or ninety-five. He knew of over 50 owners whose horses had realised over £100 each after the operation. He could name five which this year had won point-to-point races. He admitted there had been a few relapses, but he had only heard of nine such relapses up to the present time, and that, out of 807 cases, was not a large proportion. He was proud of the fact that in this branch of veterinary surgery they were two and a half years ahead of the Germans, although the latter were now quite enthusiastic about it.

Mr. EMERY in moving a vote of thanks to Professor Hobday, said he was sure that they had all most thoroughly enjoyed the lecture delivered to them by a gentleman who was a past master in the subjects dealt with. It was now a good many years since he first saw Mr. Hobday, who was then a junior student, and who even in those early days, gave promise of becoming one of the best men in the profession. That promise had been amply fulfilled. He had the greatest pleasure in moving a very hearty vote of thanks to the lecturer.

This was seconded by Mr. Thompson (Lurgan) in a few well chosen laudatory words, and passed with great enthusiasm.

Prof. HOBDAV, in acknowledgement, thanked the members for their patient hearing, and said he thought it a privilege to come before that Association in Ulster, and especially at a time when all England was looking towards the Province of the North. (Laughter and applause).

THE LATE WILLIAM HUNTING.

Mr. EMERY said he had a very sad duty to perform. He referred to the lamented death of Mr. Wm. Hunting, F.R.C.V.S., and in moving a vote of condolence with the deceased gentleman's relatives he said that he was sure they all felt that they had lost a great friend, and the profession had lost one of its most devoted and brilliant members. They all knew the good work the late Mr. Hunting had done in establishing *The Veterinary Record* and conducting it in such an able and impartial manner. They all knew how frequent a contributor he had been to the proceedings of such societies as theirs; his papers were able, often entertaining, and always instructive. His work on "Glanders" was of the very best and his interest in the welfare of our profession was lifelong. We can now say of him:

"Life's work well done,
Life's race well run,
Now cometh rest,"

Mr. KERNOHAN, in seconding, said he had known the late Mr. Hunting intimately for many years and could endorse everything that had been said of him. He was

a gentleman who gave of his best to the profession he loved, and it was to be regretted that during his life some greater recognition of his great services to his profession and his country had not been awarded to him.

Mr. GREGG said he wished to support the vote. He had not previously heard of Mr. Hunting's death, and it came as a shock to him to know that they had lost one of their greatest men and his old personal friend, though it was not altogether unexpected, as when in London recently he saw Mr. Hunting walking through the College and he was greatly struck with his altered appearance. As had been truly said, the late Mr. Hunting had done good work, and his works would live after him. The vote was passed in deepest silence, all members standing.

An adjournment was made to Messrs. Ross and Johnston's commodious and admirably equipped premises at May Street, where Prof. Hobday successfully performed two operations, one upon a cryptorchid and the other on a "roarer."

During the course of the operations Mr. Hobday explained his methods step by step, and a more lucid exposition and clearer demonstration could not have been made. As to the operations, they were performed in an expert manner by an expert.

A most interesting and successful meeting was brought to a close by a very hearty vote of thanks to Messrs. Ross and Johnston, every person present unreservedly voicing their thanks, as it was felt that these gentlemen were really instrumental in affording the opportunity for such an excellent lecture and demonstration.

FRED. W. EMERY.

DISEASES OF ANIMALS ACTS 1894 to 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders† (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered.*
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
Gr. BRITAIN. Week ended Dec. 6	20		20				9	10	28	56	13	53	437
Corresponding week in	1912	12		13	1	6	1	1	49	95	20	53	528
	1911	22		25	1	19	1	1			17	53	929
	1910		31	38			3	13			14	57	719
Total for 49 weeks, 1913	548		601		1	23	147	341	2235	4393	193	2387	29958
Corresponding period in	1912	713		807	82	645	166	305	2684	5649	275	2781	37838
	1911	851		1059	19	486	198	478			375	2330	28662
	1910		1374	1638	2	15	336	986			427	1452	13759

† Counties affected, animals attacked: London 10.

Board of Agriculture and Fisheries, Dec. 9, 1913.

IRELAND. Week ended Dec. 6				...	...	...	...	...	Outbreaks	21	2	8
Corresponding Week in	1912	...	...	...	...	...	...	...	1	13	2	3
	1911	...	...	...	...	...	...	...	1	6	12	67
	1910	...	1	...	...	...	...	...	...	7	1	46
Total for 49 weeks, 1913	...	...	...	...	...	1	1	112	494	132	855	
Corresponding period in	1912	...	3	3	68	382	...	...	61	350	206	1658
	1911	...	9	16	...	...	2	3	55	315	160	2414
	1910	...	7	13	...	...	1	2	63	426	89	2119

* These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Dec. 8, 1913

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Royal College of Veterinary Surgeons.

FELLOWSHIP DEGREE.

A meeting of the Board of Examiners for the Fellowship Degree was held at the College, 10 Red Lion Square, W.C., on Saturday, Dec. 6th. The following is a list of the successful candidates, together with the titles of the respective theses:—

J. BASIL BUXTON, "Veterinary Serum Diagnosis,"
H. TUDOR HUGHES, "Equine Tuberculosis."
H. M. HOLLAND, "Fistula."

The Examiners were Prof. Macqueen, Messrs. Malcolm and Woods: Mr. W. J. Mulvey in the chair.
FRED BULLOCK, Secretary.

EXAMINATIONS IN DUBLIN,

At a meeting of the Board of Examiners held in Dublin on December 8th for the Written, and on December 9th and 10th for the Oral and Practical Examinations, the following gentlemen passed their Final Examinations:—

Mr. J. R. Ellison	Mr. E. S. Mulcahy-Morgan
D. J. O'Byrne	M. H. Reid
A. E. Brandon	J. A. Shannon
St. J. C. P. McFarlan	

The following passed their Third Examination:

Mr. I. C. J. Blake *	Mr. G. J. Delaney
T. F. Donworth	R. Hans
L. A. Herbert	

The following passed their Second Examination:

Mr. P. J. Dunne	Mr. M. McCartin
T. J. Kenny	T. O'Connor
G. McElligott	C. O'Driscoll
W. A. J. Flanagan	

The following passed their First Examination:

Mr. T. A. O'Brien	Mr. H. C. I. Kelly
T. C. J. Roark *	J. P. Rice *
W. Walsh	

Marked thus * passed with Second Class Honours.

Right of Admission to the Law--Appeal Court Decision.

The appeal was brought by Miss Gwyneth Marjorie Bebb, daughter of the Rev. Dr. Bebb, principal of St. David's College, Lampeter, from a decision of Mr. Justice Joyce, given against her in an action to establish her claim, under the Solicitors Act, 1843, to be admitted to the preliminary examination of the Law Society, with a view to becoming a practising solicitor. Mr. Justice Joyce's decision was based on precisely the same grounds as the decision of the Court of Appeal.

The contentions put forward by Lord R. Cecil, K.C. (with him Mr. R. G. Wright), on behalf of Miss Bebb, were:

That unmarried women have *prima facie*, apart from any special considerations, the same legal rights as men, subject to certain exceptions.

That at common law there is nothing to prevent women being admitted as solicitors.

That the fair construction of the statutes on the subject favour their right to be admitted.

Sir R. Finlay, K.C. (with him Mr. Hughes, K.C., and Mr. Tomlin), resumed on behalf of the Law Society. He referred to a case heard in the Court of Session affecting the admission of women as students in the University of Edinburgh, and quoted from the judgment of one of the majority judges to the effect that no instance had occurred since the establishment of the University, of admission being claimed by women until that time. The case was even stronger in regard to solicitors in England, because their foundation went much farther back. Women were ultimately admitted to the University of Edinburgh by a statute of 1889. Council also cited the case "Nairn v. University of St. Andrew," which came to the House of Lords from the Court of Session. The decision was to the effect that women graduates were not entitled to vote for a Parliamentary representative of the University.

With regard to the argument of Lord R. Cecil that the profession of attorney was not a public office, he submitted that from the time the profession became recognised, under 2 George II., ch. 23, the office was of a public nature, carrying with it the right to fill certain offices, including that of Master of the Supreme Court. One could not help thinking that there was sound reason in the common law upon this subject. Obviously, it would work a revolution in chambers if women were allowed to appear before the Masters, for he did not suppose there was a Master living who would refuse more time to a pretty girl who had clearly already got to the end of her tether. (Laughter.) The common law was based upon common-sense in saying that in dealing with legal questions, such as solicitors were required to deal with, men only should be admitted. There was after all a broad distinction between the proper functions of the two sexes. The common law, with the common-sense which had always characterised it, recognised that distinction, and there was nothing in the Act of 1843 which could set it aside.

Mr. Hughes followed on the same side. At one time all the sixty Chancery clerks were compelled to be celibates, because they had originally been in Holy Orders, but gradually that practice fell into disuse, except in the case of six chief clerks, each of whom had ten clerks under him. Ultimately the six began to feel that they were hardly treated in not being allowed to marry, and when Henry VIII. was on the throne, thinking that he might be sympathetic in a matter of that kind—(laughter)—they applied for permission to marry, and 14 and 15 Henry VIII., ch. 8, was passed enabling them to marry. In the old time these clerks were sometimes referred to as "bachelors." They acted as the attorneys of all parties in Chancery, but he did not think they were exactly attorneys as we know them now.

Lord Justice Phillimore: They were more like proctors. No one has told us much about the origin of solicitors. I take it there were solicitors who solicited the Lord Chancellor for the exercise of his discretion and grace in cases where equity ought to interfere. I suppose they had ultimately to instruct one of the sixty clerks to act for them?

Mr. Hughes: Yes.

Lord Justice Phillimore: When did they first become a profession?

Mr. Hughes said they were mentioned so far back as 1605 as "another class destined like Aaron's rod to swallow up all the rest." (Laughter.)

REPLY.

Lord R. Cecil replied. Apart altogether from previous history, the Act of 1843 gave a right to "persons" to be attorneys or solicitors, and it defined "persons" as subject to qualifications as to context and subject-matter, including women, just as the Factory Acts gave

women the right to be inspectors. It was therefore for the Law Society to show that there was a disability before 1843, and if they could not show that, women had a right to be admitted. There was no evidence in the English Law of any general disability of unmarried women.

The evidence that women had not hitherto been solicitors showed nothing in itself; it clearly did not show that they were now disentitled. There was really no legal right to called to the Bar. Lord Mansfield declared that the Inns of Court were mere voluntary societies, and that their conduct in regard to admission was subject to the control of the judges. Any one who was refused admission had a right to appeal to the judges.

Lord Justice Phillimore: If you were a solicitor, have you not in certain circumstances a statutory right to be called to the Bar?

Lord R. Cecil: I think that is only one of the regulations.

Lord Justice Phillimore: There is a statutory power for a barrister to become a solicitor, which is another matter.

Lord R. Cecil said with regard to the common law and common-sense, if they were to bring common-sense into the matter it was perfectly clear that in a country where women might appear as factory inspectors before a court, and where for years they had been entitled to exercise the duties of solicitors' clerks, there could be no special reason why the great mass of non-contentious business of a solicitor could not be as well done by women as by men. If common-sense was to be considered, he submitted it told more in favour of the appellant than of the respondent.

JUDGMENT.

The Master of the Rolls said: This appeal raises a very important point as to the right of woman to be admitted to the profession of solicitor. The plaintiff seeks a mandamus or order requiring the Law Society to admit her to the preliminary examination. The Law Society is a modern creation by statute. The right which plaintiff claims depends upon the Act of 1843. The argument adduced is that in the Act certain statutory obligations are imposed upon the Law Society requiring them to admit any "person" who complies with certain conditions, and plaintiff points to the words, "every word importing the masculine gender only shall extend and be applied to a female as well as a male . . . unless . . . it be otherwise specially provided, or there be something in the subject or context repugnant to such construction."

It has not really been contended by Lord Robert Cecil that there is anything in the Act which destroys or removes an existing disability. What we have to consider is whether at the date of the passing of the Act a woman was under a disability to become an attorney or a solicitor. Three grounds have been alleged to prove such disability. It is said that Lord Coke, 300 years ago, said that a woman is not allowed to become an attorney. Coke was plainly dealing with the profession of attorney, which had been recognised by statute, or to a large extent created by statute, between 400 and 500 years ago. But apart from what Coke said, no woman has ever been an attorney, or, until now, has ever applied to be one.

There is uniform and uninterrupted usage, which is the foundation of the greater part of the common law of this country and which we ought beyond all doubt to be very loath to depart from. I cannot therefore help thinking that, although we have listened to a most interesting discussion as to what women can do, all that is really beside the mark. I decide this case simply on the ground that, in my opinion, there was at the date of the passing of the Act of 1843 a disability on

the part of women to be attorneys, and that the Act confers no fresh and independent right, because it does not destroy a pre-existing right. I assent to this, that, in point of intelligence, education, and competency Miss Bebb, who is a distinguished Oxford student, is at least equal to a great many, and, probably, far better than many, of the candidates who will come up for examination. But that is not before us. Our duty is to ascertain what the law is, and I disclaim absolutely any right to legislate in a matter of this kind. That is for Parliament, and not for this Court. I think the appeal must be dismissed.

USAGE.

Lord Justice Swinfen Eady: I am of the same opinion. Lord Robert Cecil has entirely failed to convince me that the profession of a solicitor is now open to women. It has been pointed out that anciently in England parties to a suit had to appear in person or by a deputy. Coke points out that by the common law a plaintiff or defendant could not appear by attorney without the King's special warrant by writ or letters patent. There were, therefore, but few suits. Then, gradually, in course of time, the profession of attorney arose. The exact date when there were attorneys by profession has not been made to appear, but they certainly existed before 1402, because in that year a statute was passed governing attorneys. After reciting the damage and mischief done by a great number of attorneys "ignorant and not learned in the law," it enacted that all attorneys should be examined by the justices. From that time to the present no woman attorney has ever existed.

What is the effect in England of long-continued usage—usage through the centuries without departure in any single instance? It has been put in this way—"What has been commonly received and acquiesced in as the law raises a strong presumption as to what the law is, and imposes the burden of proving that that is not what it is understood to be." In my opinion, it is sufficient to rest this case upon the inveterate practice of centuries—that ever since attorneys as a profession have existed women have never been admitted to the office. In my opinion, that shows what the law is and has been, and for this reason I am of opinion that the present applicant is not entitled to insist that she has a right to be examined by the Law Society with a view to entering the profession.

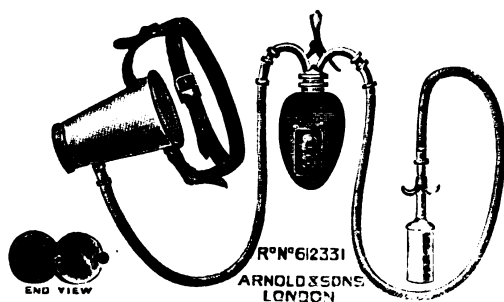
MARRIAGE.

Lord Justice Phillimore: I am of the same opinion. We are not here to say what should be the law, and I express no opinion one way or the other on that matter. Our function is to declare the law, and our first function is to declare the common law of the country. And we declare that common law according to what we ascertain to be the received inveterate usage of the country. There is no instance since solicitors became a profession of a woman being admitted, or of it being considered possible that she could be admitted. Until solicitors became a profession I apprehend the only representative or law agent of a litigant in the Court of Chancery was one of the sixty Chancery clerks, and it is obvious from the statute quoted that they were always men. Coke's view was that women could not be solicitors, and he is a witness of the highest rank. There is no evidence the other way at all. All the evidence teaches us there is an inveterate usage to the effect that this is a profession which has not been hitherto open to women, and the same arguments which could be applied to destroying that evidence might equally well be applied to the claims for the Parliamentary or municipal franchise. I do not say this is an office unsuitable to women, but it has never been in the view of the Courts suitable to women.

The cases as to parochial offices may stand on their own merits. They have no bearing upon this case. A difficulty at once arises if a woman is to be admitted, because it is clear that married women, not having an absolute liberty to enter into binding contracts personally, would be unfitted either for entering into articles, or for contracting for their clients. That, of course, does not apply to single women; but every woman can be married at some time, and it would be a serious inconvenience if in the middle of her articles, or while conducting a piece of litigation, she was suddenly to be disqualified from contracting by reason of her marriage. Construing the more recent statutes in the light of previous legislation and of the common law, I come to the conclusion that there is nothing in them to show that the Legislature intended to open this profession to women.

The appeal was accordingly dismissed, with costs.—*The Daily Telegraph*.

SCOTT'S IMPROVED DOG CHLOROFORM INHALER (REGISTERED).



Messrs. Arnold & Sons have made at my suggestion an Inhaler which seems to me more effective in operation than any other. It is a combination of other ideas together with certain improvements. The "mask" and tube is of metal, therefore aseptic and suitable for all climates. The mask has perforations at its extremity, and a valve which regulates the amount of air admitted. It is simple in use and remarkably safe—a toy dog 4lb. can be kept under for any length of time necessary (one has been for over two hours) by gradually opening the valve.

A toy 4lb. to a terrier 30lb. can be conveniently chloroformed with this one size, using from one to four drams of chloroform according to size of the dog, and length of time required.

E. H. SCOTT, M.R.C.V.S.

Nov. 27.

A "Cattle Dentist" Fined.

At Cocker-mouth Police Court on Monday, Thomas Gill, "cattle dentist," was fined £2 for obtaining 4s. from Mr. Wilson, solicitor, of Cocker-mouth, by false pretences. The defendant went to Mr. Wilson's farm at Routenbeck, Cocker-mouth, and told the bailiff that he was a "Government" cattle dentist, and insisted on inspecting the cattle. He pretended that he had drawn four teeth, which he had produced, from certain animals, and he charged the bailiff a fee of 4s. It was subsequently found that no teeth had been extracted.

The defendant's excuse was that he was tipsy. He had acted as a "cattle dentist" for 30 years. Superintendent Illingworth said that it was not an isolated case on the part of the defendant.

Serum Treatment of Swine Fever.

Mr. Runciman, M.P., President of the Board of Agriculture, was the principal guest at the dinner of the Central and Associated Chambers of Agriculture and the Farmers' Club, held at the Criterion Restaurant, Piccadilly Circus, in the course of his reply to the toast "Success to Agriculture," said, "The sum now spent in agricultural research was far greater than ever it had been in the history of the country. He hoped that work done in a great research institution of Imperial dimensions, financed out of national funds, which he believed would be organised before long, would enable them to cope with the greatest enemy of the farmer—the ravages of disease. He regretted that the restrictions in regard to swine fever had done little more than to check the spread of the disease. Experiments in Holland, and Hungary, and in the United States had not afforded conclusive proof of the efficacy of the serum treatment. The Board of Agriculture had, therefore, recently decided to undertake experiments in the treatment on selected affected farms, in the hope of arriving at some conclusion as to the efficacy of the treatment. We had less swine fever than was to be found in most civilised countries, and as to other animal diseases we had a record which every other civilised country envied."—*The Times*.

The Dog's Gamut.

A veterinary surgeon was summoned at Wimbledon Petty Sessions last month for keeping noisy dogs. Several witnesses stated that they had to change their sleeping rooms because of the noise, and one woman said that a dog went from the "pitch C to E." Another woman admitted that her husband went through the scales every morning at his bath. Judgment was adjourned for a month because of the serious effect an immediate decision might have upon the defendant, who depended upon veterinary surgery for his living.

Personal.

Mr. J. RUSSELL GREIG who since obtaining the diploma has held the appointment of bacteriologist in the veterinary department of the City of Glasgow, and Mr. C. F. Shawcross, have received appointments under the Board of Agriculture and Fisheries. Both were students of the Royal Dick College.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, Dec. 9.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

R. B. Palmer to be Lieut. Dated Nov. 11.

The name of Capt. John C. Coleman is as now described, and not as stated in the *Gazette* of Nov. 11.

THE ROYAL DUBLIN SOCIETY.—The Royal Dublin Society has received Lord Ardilaun's resignation of the office of president after a tenure of sixteen years. Lord Iveagh was unable to accept an invitation to be nominated for election to the presidency, and the nomination has now been accepted by Lord Rathdonnell.

The Hunting Memorial Fund.*Subscriptions received up to 7 p.m., Dec. 10th.*

	£	s.	d.
Previously acknowledged	69	15	6
Mr. H. Stephenson, A.V.C., Colchester		10	0
Capt. E. P. Argyle, A.V.C., Netheravon	1	0	0
Messrs. Chessman and Garry, Wandsworth	1	1	0
Maj.-Gen. Thomson, Bedford	1	1	0
Maj. E. P. Barry, 2nd Life Gds., Regent's Park		10	0
Mr. T. Reginald Lydford, Castle Cary	1	1	0
E. Alf. West, South Kensington, S.W.	1	1	0
Maj. W. B. Edwards, A.V.C., Canterbury	1	1	0
Mr. Fred. G. Samson, Mitcham, Surrey	1	1	0
H. G. & T. W. Lepper, Aylesbury	1	1	0
Chas. Sheather & Sons, Regent's Park	3	3	0
T. Wright, Lower Richmond Rd., Putney	2	2	0
Prof. J. Macqueen, Royal Vety. Coll., N.W.	3	3	0
Mr. R. J. Foreman, Tottenham, N.	1	1	0
Capt. A. S. Lawrie, A.V.C., Milford	1	1	0
Capt. J. Andrews, A.V.C., Dublin		10	6
Mr. Herbert King, Kennington Lane, S.E.	1	1	0
Richard Hughes, Oswestry	1	1	0
Capt. W. H. Taylor, A.V.C., East Liss, Hants.	1	1	0
Vet.-Maj. W. A. Pallin, R.H.C., Curragh Camp		10	6
Capt. T. Bone, A.V.C., Co. Cork	1	1	0
Mr. Jas. Thomson, Fawcote, Bervie, N.B.	1	1	0
	£95	18	6

HENRY GRAY, Hon. Sec. & Treas.

23 Upper Phillimore Place, W.

Cheques endorsed "Hunting Memorial Fund" and crossed "The London City and Midland Bank, Ltd. Kensington Branch."

OBITUARY

JOHN A. THOMPSON, F.R.C.V.S., J.P., Lurgan, Ireland. Graduated, Edin: (Dick), April, 1881, F. April, 1890.

Mr. Thompson died at his residence on Tuesday, 9th Dec. Interred at New Cemetery, Lurgan, on Dec. 11.

ANDREW WATERSTON, M.R.C.V.S., Beith, Ayrshire.

Glas: Dec., 1873.

Death occurred on Dec. 4th, at the Victoria Infirmary from fracture of the base of the skull. Aged 60 years.

ANDREW MCGREGOR, M.R.C.V.S., Crieff, Perthshire.

New, Edin: May, 1890.

Death took place on Dec. 9th, at the age of 58 years, from cerebral tumour.

WILLIAM WILSON, F.R.C.V.S., Great Berkhamsted.

Vice-President of Council, 1888-9.

Lond: April, 1859, F. June, 1885.

A wide circle of friends will learn with regret the news of the death of Mr. William Wilson, F.R.C.V.S., which occurred on Wednesday, Dec. 4th, at the age of 82 years. Mr. Wilson had not enjoyed the best of health for some time, but until quite recently took his accustomed walks and showed deep interest in all that concerned Berkhamsted. He was one of the oldest townsmen, and as a veterinary surgeon he had been established at Berkhamsted over 50 years. On Saturday, Nov. 29th, he celebrated his 82nd birthday, and just twelve months ago the death of his wife was a sad blow to him. He leaves four sons, who all follow the profession of their father, and two daughters. As Inspector under the Diseases of Animals Act in this part of the county, and similar offices under the local authority, Mr. Wilson was prevented from taking a prominent part in local administration, but he did all he could to promote the welfare and prosperity of the town

and neighbourhood, which he dearly loved. For many years he was the esteemed chairman and treasurer of the Town Hall Committee, and was the oldest member of that body. He was a member of the local lodge of Freemasons and an honorary member of the Ancient Order of Oddfellows (Castle Lodge). These are but few of his many associations, for he was in former years connected with most of the public work of the town; in the restoration of the Parish Church he was deeply interested. His genial disposition and conversational gifts made him a firm favourite with all he came in contact. He was always ready and willing to work for what he considered was the betterment of the town, and although outspoken he always commanded respect. The funeral took place on Saturday last.—*The Gazette* (Berkhamsted).

EQUINE MANGE—DISINFECTION.

Sir,

At the meeting of the Midland Counties Association, when Mr. Pillers read a paper on the above subject, a speaker suggested boiling the harness. May I mention a simpler means of disinfection.

Three years ago I was called to a farm on which the horses had for a very long period been subject to attacks of mange, the disease disappearing after the animals were treated with oily dressings, to break out afresh at longer or shorter intervals, and this in spite of vigorous cleaning of the horses and thorough disinfection of the stables. The harness was suspected as a cause, and its treatment in the method about to be described has proved quite successful. No case has occurred on the farm since its adoption.

An outhouse of suitable size was selected, and a ceiling made to it of flooring boards. This ceiling and the sides of the building were covered with large sheets of brown paper, pasted on. Every Saturday night all the harness—there were twelve horses—was bundled into this house, into which also were placed three of the lamps used about here to generate sulphurous anhydride for fumigation of green-houses. As soon as the lamps were lighted the door was closed, and brown paper pasted over it. The lamps were allowed to burn out, and the door was not opened until Monday morning; this was done for six successive weeks.

The lamps consist of three parts—a tin saucer to hold the sulphur, a tin plate with a hole cut in it into which the saucer is seated, and a tin spirit lamp. The plate, with its saucer, rests on two bricks, and the lamp is placed under it. The whole apparatus costs 1s., and can be obtained from Mr. Woollard, ironmonger, Waltham Cross, N.

I should like to add that in winter it is cruel to keep clipped horses, dressed with oil, uncovered. Half an armful of good wheat straw placed longways on the back, and kept on with a couple of strawbands, gives comfort.—Yours, etc.,

W. R. DAVIS.

REBATE ON PETROL.

Sir,

Now that so many members of the profession find it necessary to use motor-cars in their work, could not a determined effort be made to get the same rebate as allowed to the medical profession?

The work entailed by the Tuberculosis Order, etc., should surely be sufficient reason for the Government to help us, and as Sir Sidney Oliver appears to be taking a kindly interest in our work, perhaps a strong deputation or petition from the Council or National Association might have the desired effect, and if a few influential members would take this matter up, the profession in general would be grateful to them. Personally, I got our M.P. to act in the matter some time ago, but the Chancellor refused then to consider the matter further.

We are doing a national service at very moderate remuneration, and if this important subject was to be taken up strongly now, it might be the means of considerable financial help to us.—Yours faithfully,

PRACTITIONER.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1328.

DECEMBER 20, 1913.

VOL. XXVI.

THE DIPLOMA IN VETERINARY STATE MEDICINE AND THE FELLOWSHIP DEGREE.

At the next Council meeting, the Draft of the new Supplementary Charter will be considered and, with or without some modifications of detail, will probably be finally adopted. It contains provisions for the new Diploma in Veterinary State Medicine or "Public Health Diploma," and the new regulations for the Fellowship Degree will only come into force if the Charter is obtained.

The syllabus for the Public Health Diploma is comprehensive, and includes every subject of import to the veterinary sanitarian. But the regulations as to qualification are vague, and at least appear open to criticism. A candidate, after obtaining the M.R.C.V.S. degree, must spend at least "six months practical instruction in meat inspection, hygiene of byres, stables, and markets, under veterinary inspectors or teachers recognised for that purpose by the R.C.V.S.," and a further period of six months' attendance at approved courses of instruction at an affiliated school.

The first point here is—what is meant by this first six months' instruction under a specially recognised teacher or inspector? Would the same period spent in salaried junior employment in the veterinary sanitary service satisfy the Council?—or does the clause really mean that certain inspectors are to be empowered to conduct classes for practical instruction which every candidate must attend at his own expense? This point needs clearing up, and there is another that should be emphasised. The second six months must be spent in study at an affiliated school; and this—even without the possibilities of the first six months—means a serious outlay in time and money. There are men now in junior posts in the public service, and others in private practice whose thoughts are turning the same way, to whom such an outlay would be impossible. These men are working to fit themselves for the service, and would succeed under the old conditions, but they cannot hope to do so under the new ones. When the Diploma is established, it will soon be practically impossible to obtain a good public appointment without it. Some provision could surely be made for men who are already approaching its standard of knowledge, but who cannot comply with its regulations.

It is not clear from what source the examiners are likely to be drawn; and the Draft Charter contains no provision for conferring the Diploma without examination. This omission is singular, for we have many men already in the public service whom it would be absurd to either examine or expect to attend classes. The scheme looks a good one so far as new graduates who intend to take up

public health work are concerned; but these are not the only class deserving of consideration.

No one would suggest that every member now doing public health work should either receive the diploma without examination, or be admitted to examination without further training. But some certainly ought to be admitted without examination, and, for a year at least, there should be more elasticity than is apparent in the qualifying regulations. If not, some good men will be shut out from the diploma altogether.

The new Fellowship examination will be far more specialised than the present one. Candidates may elect to be examined in any one of nine branches, viz., anatomy (including surgical anatomy), physiology, pathology (including bacteriology and protozoology), helminthology and entomology, pharmacology, and toxicology, medicine, tropical medicine, surgery, and sanitary science and administration. A thesis and its defence will form the main examination; and though the examiners may add a practical or a written examination, they will be confined to the special branch chosen by the candidate. It will no longer be necessary for a pathologist or sanitarian to pass a written examination in medicine and surgery, or for a clinician to do likewise in bacteriology, as is the case at present. These numerous branches will necessitate a large staff of examiners, some of whom will have very little to do, for some of the subjects will attract very few candidates. It may, too, be difficult to fill some of the examinerships satisfactorily without going outside the profession. The men most in touch with veterinary tropical medicine chiefly reside abroad, and physiologists and toxicologists have always been rare within our own ranks. We believe that the regulations are being altered with quite the right aims. The increased specialisation of the Fellowship degree must greatly enhance its value; and the inclusion of medicine and surgery as special branches will leave it always as accessible to the practising clinician as to any other man.

Lastly, it is important to note that, even in public health, the Fellowship degree will still remain our premier one. The Fellowship examination in sanitary science and administration will be open only to holders of the Public Health diploma. The veterinary sanitarian of the future, after first qualifying as a member, will take the Public Health diploma as an indispensable step towards a good appointment. Afterwards, if ambitious, he may take the Fellowship degree in sanitary science as a special mark of distinction. Some men may also take a B.Sc., but it seems quite possible that the new Fellowship degree may supersede those from Universities.

AN ABDOMINAL LESION.

Subject.—A valuable Shire mare, five years old.

History.—The mare had been turned out all the summer, and on the night of the 3rd-4th inst. had strayed into a field containing some stacks of barley ready for threshing. She had apparently eaten her fill, and on the morning of 5th began to show some slight uneasiness. The owner administered two bottles of Gaseous fluid, and, according to him, temporary relief resulted. Attacks of pain became more insistent, however, and at 8 p.m. on the 5th I was summoned.

Symptoms and Treatment.—Temperature 104.8 F. Pulse 90, frequent, small and tense. Visible membranes injected. The mucous membrane of the mouth was inflamed, and some vesicles were present. This condition I attributed to the above-mentioned Gaseous fluid, the more so as the owner reluctantly confessed that the mare had rubbed her mouth on the manger with extreme vigour after the administration of this "marvellous vegetable remedy." The face was "drawn," and there was frequent turning up of the lips. Pain was spasmodic in character, and intense during the spasms, the favourite position being on the side with all four legs drawn close to the body. Body was covered with patchy sweat. Borborygmus was barely noticeable. The rectum was dilated and empty. No faeces had been passed since the previous evening. My diagnosis was "wait and see," and prognosis guarded—very.

I administered 1½ pints of linseed oil, and digalen hypodermically, also two chloral hydrate balls, each containing half an ounce of the drug.

5th, 11.30 p.m.—Animal has had some relief, but within the last hour pain has been constant. Pulse is not so good, probably digalen has been too depressing.

Administered liq. strych. hcl. ʒii. and digalen ʒii. hypodermically. Hot enemata seem to give relief, so decide to stick to them for a while.

From now till 4 a.m. administered hot enemata every half hour (three gallons), and notice that they are being held longer as time goes on.

At 3.30 a.m., on rectal exploration discover a small piece of faeces in the rectum. On withdrawal, this proved to be a perfect cast of the bowel containing hardened faeces. The cast was in the form of a tube about 4½ inches in length, fairly tough, and black in colour. Following the removal of this cast, about a pint of liquid faeces, apparently mixed with disintegrated blood, came away.

6th, 6.30 a.m. Violent pain ceased. In the meantime a small quantity of blood-stained faeces has been passed. Pulse is wretched in tone, and a tenseness of the abdominal walls together with an agonised expression on the face point to peritonitis now being present.

Treatment. Nux vomica ʒss., digitalis ʒss. every three hours. I also managed to visit the case three times during the day and gave copious hot enemata.

7th. Mare much improved. Abdominal wall less tense. Temperature 102, pulse 50. Treatment continued, but powders given every four hours.

8th. Mare normal, and feeding as much as she is allowed. All treatment stopped.

9th. Mare still normal, and of course one has to finish visiting.

Remarks. The only interest about this case to me is in the fact that it is the first time that I have seen a cast of the bowel passed per rectum in the horse.

I have seen the phenomenon on various occasions in cattle under the conditions in which the owner in Ireland tells you "Sure an' she passed a lump of a tree" (this from the gnarled appearance of the wrinkled mucous membrane); and also some shreds of membrane passed by horses, but never a complete and perfect cast. I suppose it was a case of intussusception.

R. F. STIRLING, F.R.C.V.S.

Lancaster.

RUPTURE OF UTERUS IN A COW—A WARNING.

Some four weeks ago I was called to a five-year-old cow, which was said to have been off her feed for some days and constipated. The owner had administered certain potions, including the ubiquitous red drench. She was due to calve in a week's time.

The temperature was subnormal, the pulse weak. There was extreme dullness and enlargement of the abdomen. The patient emitted a low moan every few seconds.

On proceeding to examine the uterus, I found the os fully dilated, and a little further, on the left side towards the floor of the womb, a rupture large enough to admit a calf's head. I passed my hand through and felt the bowels and bladder. The foetal membranes were already ruptured, and the calf had apparently been dead some days.

I explained the condition to the owner, and assured him, with no little confidence, that the cow would die. We decided to deliver the calf, and as there was very little contraction in the ruptured uterus, we experienced some difficulty. And I went my way.

A week later an old professional friend spent an evening with me, and I mentioned the case to him. "Take care you don't get a rude shock" he said, "I had a similar case last year, and prognosticated as you did, but the cow recovered. There was this difference, that in my case the rupture was in the roof, and in yours towards the floor of the uterus." This made me curious to know the fate of my cow, which was a good many miles away.

A few days ago I met my client. He is, fortunately, brimful of human nature. He wore a roguish smile and whispered "would you advise me to fatten that cow or keep her for breeding again? She never looked back."

L. W. WYNN LLOYD,

Carmarvon.

ANOTHER UNEXPLAINED LAMENESS.

Apropos of Mr. Howard's article on "A puzzle in lameness," the following case may be of interest.

A mare of my own, a four-year-old half-bred Irish hunter, frequently goes dead lame at the walk, in the off hind leg. This is especially marked when the mare is in any way excited, as for instance when she is out with hounds. In fact it becomes a nuisance, as I am so often asked if I know that my mare is lame behind. At the trot she is perfectly sound, and when not excited, and walking with a loose rein, she is, as a rule, sound. It is not a peculiarity of action, it is a distinct lameness, the stride being shortened by one half that of the near hind. When led she invariably walks quite normally. The interest of such cases is principally from the aspect of veterinary jurisprudence. Is such an animal technically sound?

In the case of Mr. Howard's patient the animal would be unsound, as there would be inability for work; but there is no such inability in the case of my mare. The drawback would be the unpleasantness of riding an animal thought to be lame by the average observer. The cause would appear to be undoubtedly of nervous origin, not to be defined more precisely than a functional disorganisation—a sort of hysteria. I should like an opinion from a jurisprudence point of view.

WAKEFIELD RAINEY.

ABSTRACTS FROM FOREIGN JOURNALS.

POISONING BY TOBACCO JUICE IN CATTLE.

Giovanoli has published (*Schweizer Archiv.*) an article which proves that the employment of tobacco juice for the destruction of cutaneous parasites in cattle is far from being inoffensive. His first observation is the following. About 10 o'clock in the morning four cattle—one two-year-old ox, one three-year-old cow, and two heifers aged eight and thirteen months respectively—were washed with a solution of tobacco juice to rid them of lice. Two hours later the two heifers were found in a very critical condition. The breathing was accelerated and noisy, the whole body showed muscular trembling, the head and neck executed irregular movements, and the eyes were fixed. Both heifers stamped constantly with the hind feet, and one discharged softened faecal matter. The mouth could only be opened with great difficulty. Three hours after this, both the heifers were dead; while the two other animals which had been dressed with the same solution showed no abnormal symptoms.

The post-mortem examination of the heifers was carried out quickly. All the visible mucous membranes were markedly injected, and the pupils were dilated. The internal organs were normal, except that the lungs were engorged with blood and showed a blackish-red colouration. The blood was fluid, and had a black tar-like colour; when exposed to the air it rapidly became red.

The author's second observation is as follows. He was called to a two-year-old ox, which had been washed with a solution of tobacco juice to rid it of lice, and found that it had been thought necessary to slaughter the animal before his arrival. The ox had begun to tremble and sweat, an alarming tympany had appeared, and progression had become staggering to such a degree that the animal threatened to fall at every step. Two cows which had been treated with tobacco juice at the same time, but a little less energetically, showed somewhat similar symptoms. Four hours after having been washed with the solution they showed embarrassed respiration, weak and frequent pulse, cold horns, slight tympany, and profuse sweating. These symptoms, however, never became alarming in the two cows, while the ox had to be slaughtered.

The post-mortem examination of the ox revealed no lesions except those of pulmonary tuberculosis. No internal organ and no muscle gave forth an odour of tobacco. As a cooking test of a piece of muscle revealed no special odour, the flesh was declared fit for consumption. The tobacco juice used had come from a cigar manufactory, and had been mixed in water in the proportion of 6 per cent. The solution had been rubbed upon the back, and upon the sides of the neck and shoulders.—(*Annales de Méd. Vét.*)

ECHINOCOCCI IN HEART MUSCLE.

G. Giovanoli, of Soglio records (*Schweizer Archiv.*) three cases of this occurrence, all very similar.

The first was a working ox which, while drawing a heavy load along a difficult road, suddenly showed great difficulty of breathing, trembled all over, and fell dead. Post-mortem, a whitish convexity was found in the middle of the left wall of the heart. This proved to be an echinococcus cyst containing about 4½ oz. of fluid.

Another working ox, which died while ploughing, had an echinococcus cyst the size of a hen's egg, in the left wall of the heart, projecting inwards into the ventricle.

The last case was a cow, which died suddenly at grass. Numerous echinococcus cysts were found in this animal's lung, and also one in the right wall of the heart.—(*Münchener Tier. Woch.*)

W. R. C.

THE PERSISTENCE OF THE BACILLUS OF INFECTIOUS ABORTION IN THE TISSUES OF ANIMALS.—By W. E. COTTON, D.V.M., Bureau of Animal Industry Experiment Station, Bethesda, Md. Presented to the 50th annual meeting of the American V.M.A. in New York, Sept., 1913. [Abstract].

The work from which the data was obtained was done at the Experiment Station of the Federal Bureau of Animal Industry, at Bethesda, Md., under the direction of Dr. E. C. Schroeder, Superintendent, to whose guidance and help I am greatly indebted both in making the observations and in preparing the data presented.

At the forty-eighth annual meeting of this Association Dr. Schroeder and I presented a paper (1) in which we described an organism that we had found to be

eliminated with the milk of a considerable number of apparently healthy cows; that it was of common occurrence in market milk; and that it produced lesions in guinea pigs which somewhat resembled those produced by the tubercle bacillus. At that time we had failed to identify the organism, which we now know to be that of infectious abortion.

To gain some information as to the constancy with which aborting cows eliminate this organism with their milk, and the length of time they persist in doing so, as well as that during which the genital tract remains infected after an abortion, careful watch was kept over all the cows at the Experiment Station; infectious abortion being present among them and slowly infecting the entire herd.

The presence of the abortion bacillus in milk, as well as in other materials, was determined by the inoculation of guinea-pigs, in which, as we have pointed out, it produces characteristic lesions. We have also made cultures from many of the guinea-pigs showing these lesions, and recovered the bacillus from them. In making tests with guinea-pigs, two were inoculated in each instance. In making the milk tests, each guinea-pig received from 4 to 6 cubic centimetres of whole milk intra-abdominally; in tests of other material the inoculations were usually made subcutaneously. It should be said of the guinea-pigs used in making these tests, as well for all those used for any purpose at the Experiment Station, that of the several thousand that we have autopsied since this investigation has been in progress, we have yet to find lesions of abortion disease in a single guinea-pig in which we had not a right to expect to find it. The work is thoroughly checked up by very many tests of milk and other materials, in which guinea-pigs were used, both in this and in other investigations.

The reproductive organs of a bull that had been used to serve some of the aborting cows, and the testicles of two bull calves, one of which had been fed and the other injected with cultures of the abortion bacillus, were tested for the presence of this bacillus, but it was not found to be present in any of them, though portions of practically all of the reproductive organs of the adult bull were used in making the tests. We were led to make the above tests because a large proportion of male guinea-pigs which are infected with abortion bacilli, develop grave lesions of the testicles and epididymides; and we have found that these males infect females with which they copulate. We also found the lesions to be present in the epididymis of a rabbit that had received an intravenous injection of the abortion bacillus a number of weeks previously. We thought it possible that the organism might remain in the testicles and epididymides of the male bovine animals without producing visible lesions, as it does in the udder of the female. So far as our investigations have gone, it seems that the bull does not harbour the bacillus in this manner, but they have not yet progressed far enough to be conclusive.

In our milk tests, we found that of the cows at the Experiment Station nineteen have records of having aborted, of having eliminated the bacillus with their milk, or both. It will be necessary to give the records of a few of these in detail, because of some peculiar conditions in each, and in order to show the regularity with which the organism is eliminated from some animals.

Cow 637 is perhaps of the greatest interest, since it was she in which we first demonstrated that the bacillus was eliminated from the udder, and hence, we have a longer record of her than the other animals. She was purchased from the Maryland State Experiment Station, and according to its records aborted on Sept. 21, 1907, in the seventh month of pregnancy. She had aborted once since she has been at Bethesda, on July 25,

1911, in the fifth month of pregnancy, the abortion bacillus being found in the fetus.

The first test of her milk, made on February 20, 1909, was positive. Later tests were made as follows: Nine in 1909, four in 1910, fourteen in 1911, thirteen in 1912, and three in 1913: 44 including the first. With the exception of two, made two and three months after abortion, all were positive. She has thus eliminated the abortion bacillus almost continuously for at least 4½ years; and if counted from the time she is reported by the Maryland State Experiment Station to have aborted, which, judging by our experience with other cows, is the probable time at which the milk became infected, would make five years and eight months as the probable time that the organism has persisted in her udder. Her milk when last tested was just as virulent for guinea-pigs as it ever was, and we have no reason to believe but that the bacillus will persist in her udder permanently.

She produced a calf fifteen months after the last abortion occurred; tests made of the placenta showed that the bacillus was absent.

A remarkable fact in connection with this cow, as well as with all cows that carry the abortion bacillus in their udders and yet abort a second time, is that the bacillus in the udder did not induce the production of sufficient anti-bodies to prevent the invasion of the uterus and consequent abortion. It is possible that abortion may have been caused by infection with another strain more virulent than the one in her udder, but this idea does not seem to be in harmony with the laws of immunity. An attenuated strain of an organism ought to induce some immunity against a more virulent one, and besides in this instance, as nearly as we could determine by cultural methods and guinea-pig tests, the organism from the udder and that from the fetus were identical.

Cow 479 is also of interest in this connection, since she has aborted twice, and because of the appearance of the abortion bacillus in the placenta discharged at a normal parturition, the third such since the last abortion, four years and five months after the abortion occurred. This seems to indicate that abortion bacilli sometimes appear in the uterus years after an abortion, but either because of the lateness of their appearance, or the high resistance of the organ, are prevented from damaging the placenta to such a degree as to cause abortion.

We have tested the placenta of two other cows, each passed at the termination of the normal pregnancy following an abortion, and that from a normal birth in a cow that never aborted, but which harboured the abortion bacillus in her udder, all with negative results. Just how frequently the condition observed in cow 479 occurs, I am unable to say, but from the fact that one such case was found out of four animals tested, would indicate that it is not uncommon, and hence it follows, that if aborting cows are permitted to enter healthy herds, that the discharges from the uterus following a subsequent normal parturition must be regarded with suspicion.

While the condition found in this cow may be attributed to a new infection, it seems much more probable that it was due to the migration of the bacillus from the udder to the active uterus. We have found the supramammary glands of cows to be infected, showing that the bacilli were travelling towards the blood stream, and once in that, it is not difficult to conceive of them reaching the pregnant uterus, where, finding a favourable soil in the embryonic tissue which it contains, they multiply and set up disease. In some respects the abortion bacillus behaves much like the tubercle bacillus, which may remain latent at some point in the body, till conditions arise that make it possible for it to migrate from the original focus to some organ, the resis-

tence of which is below normal, and set up disease. The abortion bacillus, so far as we know, is able to develop only in the pregnant uterus and the udder; the former being the seat of its greater activity, comparable to the weakened organ in tuberculosis, and the udder the seat of the latent focus from which it is infected.

Tests of this cow's milk showed it to be infected when first tested, November 21, 1910, and that it was still infected May 5, 1913, twenty-nine months later. Sixteen tests made in 1912, and three in 1913, showed the bacillus to be present in all but two. She has, therefore, eliminated the abortion bacillus from her udder, to our knowledge, for twenty-nine months, and for the last sixteen months, at least, almost continuously. As her second abortion occurred four years and seven months previous to the last milk test, the organism must certainly have persisted since that time, and in all probability since the time of her first abortion, or for a period of five years and seven months. Separate tests made of milk from each quarter of her udder on May 5, 1913, showed that all quarters of this organ were infected.

Cow 751 has aborted twice, in her second and third pregnancies, on December 19, 1911, and on February 11, 1913. Abortion bacilli were found in placenta at first abortion, but not in fetus, and in both placenta and fetus at the last one. Repeated tests of vaginal scrapings proved that the bacillus was eliminated through this channel up to and including the thirteenth day following abortion. Several subsequent tests were negative. In one other animal, the vaginal scrapings were found to be infectious forty-six days after abortion. M'Fadyean and Stockman (2) found that the bacillus had disappeared from the uterus of a cow killed one month after aborting.

One observation made in connection with this cow proved that uterine discharges containing abortion bacilli can be exposed to the weather for a considerable time and the bacilli remain alive. A large quantity, perhaps 250 c.c., of clear mucous containing islands of chocolate coloured flocculent material was passed from her uterus on the eighth day after abortion. It was allowed to remain on the ground, exposed to the sun for ten days, the weather remaining clear for the most part and warm for the season of the year (February), by which time it had dried into a tough leather-like mass, which on being tested by guinea-pig inoculations, was found to contain living abortion bacilli. Unfortunately the material left after the tenth day of exposure was accidentally destroyed, so that we were not able to determine the maximum length of time that the bacillus will remain alive under these conditions.

This cow's milk was found to be infected at the first test made, nine days after her first abortion, and was still found to be infected when last tested, February 15, 1913, thirteen and one-half months later. Twenty-nine tests were made in 1912, and four, in addition to the last one, in 1913. Of all tests made, thirty-one were positive and four negative. She has, therefore, already eliminated the abortion bacillus almost continuously with her milk for thirteen and one-half months.

We have found the abortion bacillus to make its appearance in the milk of three cows before abortion occurred, and in one of these even before the beginning of the pregnancy which was terminated by an abortion. The one in which this occurred, No. 621, gave birth to a calf at term, on December 20, 1911; tests of milk made eight, thirteen, sixteen, and twenty days after, were all negative. The next one, however, made sixty-five days after the birth of the calf, was positive, as were also two others, made six and fifteen days after this. She was served fifty-two days after the bacillus was first found in her milk, and aborted on November 4, 1912, two hundred and fifty-five days after it was found.

Tests of her milk made in the third, fourth, fifth, and sixth months of her pregnancy were all positive, as were also daily tests made the first week after abortion, and six others made at irregular intervals, the last of which was made on May 26, 1913. She has then continuously eliminated the bacillus with her milk beginning nearly two months before the beginning of a pregnancy which was terminated by an abortion, and has continued to do so with great regularity up to the last time her milk was tested, a period of fifteen months.

The record of this animal shows that a cow's milk may become infected before conception, and seems to indicate that instead of the presence of the bacillus inducing immunity when introduced at this time, as has been supposed, it is stored in the udder till the uterus by becoming active furnishes a soil for its rapid multiplication. It seems, therefore, that any system of immunisation that depends on the subcutaneous or intravenous injections of living cultures of this organism before conception is unsafe; for it would not only probably make most of the animals so treated carriers, and contaminate their milk, but would, at least occasionally, set up active disease. I do not want to be understood as opposed to efforts to evolve methods for immunisation, and I hope that something can be done in this direction, but immunity in this disease seems to be such an uncertain quantity, and the possibilities for evil in this organism, not only for animals but for man as well, so great that we had better go slowly.

Three cows, Nos. 171, 503, and 638, have never aborted, yet have continued to harbor the abortion bacillus in their udders. They are somewhat like those cases in man which continue to harbor the typhoid bacillus though they have never manifested symptoms of the disease. For some reason, the uteri of these cows seem to have either inherited or acquired sufficient resistance to prevent the organism from developing there, at least to such an extent as to produce abortion, though it continues to persist and to multiply in their udders; sufficient general immunity not being produced to drive it from this stronghold. Has the abortion bacillus, present in the udders of these cows, induced immunity in their uteri which it failed to do in cows 637 and 621, or must we regard these organs as naturally immune in these cows, or is there some other reason?

Mohler and Traum (3), Larson (4) and others have shown that some cows react to the complement fixation test, but do not abort. No doubt many such are of the kind just described, and that the reaction depends on the actual presence of the abortion bacillus. In other words, a cow reacting to this test probably has the organism either in her udder or uterus.

This type of carrier is a dangerous one, because unsuspected, and can only be found by making milk tests, or one of the serologic tests. Some simple reliable test is urgently needed, and it is to be hoped that such a one will be perfected in the near future.

Nine other cows which have aborted in from the fifth to the eighth month of their pregnancies, have already been eliminating the abortion bacillus, some continuously, some intermittently, for periods varying from two and one-half to twenty-nine months, and if kept under observation longer, I have no doubt will continue to do so for months and years to come, for in none of them is there evidence of the infection dying out.

One cow, No. 758, that aborted a fetus in which the abortion bacillus was demonstrated, has given negative results to all milk tests thus far made. She is certainly the exception that proves the rule. Her abortion occurred in the seventh month of her second pregnancy. It is possible that even in this cow more frequent tests would have revealed the bacillus in her milk, for we have one other cow the milk of which shows infection only at long intervals.

SUMMARY.

Of the nineteen cows under discussion, eighteen have eliminated the abortion bacillus with their milk, sixteen are known to have aborted, three have not aborted but eliminated the bacillus with their milk, and one aborted, but we were unable to find that her milk was infected through abortion bacilli were found in the fetus.

One cow is known to have been eliminating the bacillus with her milk practically continuously for four years and three months. One almost continuously for two years and five months, and the organism must have persisted in her body for at least four years and seven months; one almost continuously for thirteen and one-half months; one continuously for fifteen months; one intermittently for eleven months; one almost continuously for eleven months; one continuously for six and one-half months, then she became dry, and the bacillus was still present in her udder tissue thirteen and one-half months later; one intermittently for over two years; one almost continuously for over three years and four months, and nine continuously or intermittently for from two and one-half to twenty-nine months.

Since different strains of this organism seem to possess widely different cultural characteristics as well as degrees of virulence, it is possible that animals infected with other strains than those with which we have worked may give different results. Fabyan (5), however, found out of a herd of twelve cows two which eliminated the organism in their milk. One of these had aborted a week before in the eighth month of pregnancy and the other gave birth to a normal calf eleven months before. Another cow aborting at the third month was negative. These results are confirmatory of our observations.

PERSISTENCE IN SMALL EXPERIMENT ANIMALS.

Just a word as to the persistence of the organism in the tissues of guinea-pigs, rabbits and mice. We have recovered the bacillus from the spleens of guinea-pigs showing lesions, seventy-one and seventy-seven weeks after infection. Tests made of five other guinea-pigs which had been injected with the abortion bacillus twenty-one to twenty-seven months previously, and which showed only very slight lesions on autopsy, were negative.

The apparently normal spleen and liver of a rabbit, which had received three intravenous injections of abortion bacilli, were found to contain the organism 131 days, or nearly nineteen weeks after the last injection was made. The organism was found to be present in the spleen of three white mice, in which it produced lesions 103 days, or fifteen weeks after inoculation.

Fabyan (6) reports finding the organism to be present for sixty-seven weeks in guinea-pigs, ten weeks in the spleen of a rabbit, and for considerable periods in the tissues of monkeys, rats, mice, and pigeons after injection with abortion bacilli; though with the exception of the guinea-pigs and mice without producing lesions.

CONCLUSIONS.

1. The bacillus of infectious abortion, or at least the strains with which the Experiment Station has worked, may, and in most cases does, persist in the udders of cows that have aborted for years and possibly for the balance of their lives; and during this time is eliminated more or less continuously with their milk.

2. It may make its appearance in the milk months before abortion occurs, even before a conception that is terminated by an abortion.

3. It may be eliminated for years from the udders of cows that never aborted.

4. It may persist in the genital tract for as much as

forty-six days after an abortion; and the bacilli contained in uterine discharge may resist the action of sun and weather for at least ten days.

5. It may appear in the placenta of a normal pregnancy subsequent to abortion.

6. It may persist in the spleens of inoculated guinea-pigs in which there are lesions for seventy-seven weeks, and in the spleens of inoculated rabbits for nineteen weeks, without producing lesions.

It is to be hoped that we will soon know more about this strange organism. Its variable character and the seeming existence of many strains, no doubt, are responsible for much of the confusion in the past, and the fact that it seems to prefer primitive embryonic tissue as a soil, suggests that it may be an organism not yet fully adapted to differentiated tissue, and ready, by a process of mutation, to assume additional pathogenic significance in several species of animals. In other words it may be the possible parent germ of some future pathological factor.

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2. M'Fadyean and Stockman. Report of British Committee on Epizootic Abortion, 1909, Appendix K, p. 40.
3. Mohler and Traum, Twenty-eighth Annual Report, Bureau of Animal Industry, p. 174.
4. Larson, W. P., *Journal of Infectious Diseases*, March 1912, p. 184.
5. Fabyan, Marshall, *Journal of Medical Research*, May, 1913, p. 88.
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American Veterinary Review.

YORKSHIRE
VETERINARY MEDICAL SOCIETY.

[NATIONAL V.M.A. NORTHERN BRANCH.]

A meeting was held at the Hotel Metropole, Leeds, Oct. 31.

The SECRETARY (Mr. J. Clarkson) before the business of the meeting commenced, read a letter from Mr. J. Abson, of Sheffield, President of the Society, explaining that owing to ill-health he was unable to attend the meeting. In the absence of Mr. Abson he would call on the senior vice-president to occupy the chair for the time being.

Mr. McCARMICK, who then took the chair, said they would all be sorry to hear that Mr. Abson was unable to be present that day, and he hoped he would soon be convalescent.

On the motion of Mr. J. McKinna (Huddersfield) it was decided to send a letter to the President expressing the deep sympathy of the Society with him in his illness, and hoping that he would have a speedy recovery.

THE LATE WILLIAM HUNTING, F.R.C.V.S.

Mr. McKINNA: I am sure I shall be echoing everyone's feelings to-day when I rise to speak with reference to our late lamented friend, Mr. Hunting. I only heard of his death to-day, and I did so with deep feelings of regret. We have lost a leading light in the profession, one of our brilliant stars, looked up to and held in the highest esteem even by those who many times were in opposition to him. He was loved by the whole profession, and before starting our meeting to-day I think we might express our deepest sympathy with his family

in the great loss they have sustained, and the profession as well.

Mr. CLARKSON : I would like to second this vote of condolence. Mr. Hunting always had the Society very closely in his heart, he has always been very much attached to it, and I think we can say that we always had very great pleasure in receiving him. He has been one of our Honorary Associates for a very long time. At the time of his death the officers of the Society sent a wreath, but I shall be glad as Secretary to forward any letter you may direct.

Mr. McCARMICK : It has been moved and seconded that a letter of condolence be sent to the relatives of Mr. Hunting, and I ask you to show your sympathy in the usual manner by standing. The resolution was adopted.

Minutes. Mr. Clarkson read the minutes of the last meeting.

Correspondence. Mr. CLARKSON said he had no official correspondence to read, but he would like to send a letter of thanks to Mr. Pratt. Quite recently, in addition to his original gift, Mr. Pratt had made the Society a gift of a number of books. There were a good many books which were very valuable, and as this was in addition to the collection of shoes and pathological specimens, it came extremely nicely from Mr. Pratt.

Mr. McCARMICK : I am sure we all appreciate Mr. Pratt's kindness to the Society. I think the least we can do is to send him a letter of thanks.

It was intimated that Mr. Pratt was at that moment lying seriously ill.

Mr. F. SOMERS (Leeds) proposed a vote of thanks to Mr. Pratt, who, he said, had been a most generous, and chivalrous donor to the Society.

Mr. McKINNA, who seconded, said Mr. Pratt gave the gifts very graciously. Their sympathies would go out to him in his illness.

Mr. CLARKSON : I would suggest that we include in the letter a vote of sympathy with Mr. Pratt in his illness. He is the only foundation member of this Society now remaining. Although other men have perhaps got the credit for it, I believe that Mr. Pratt really thought out the formation of this Yorkshire Society. This is the first meeting the Society has ever held since I became Secretary that Mr. Pratt has not been able to attend or has written, and I presume from that that he is still very ill.

The Secretary was instructed to write to Mr. Pratt in accordance with the wishes of the meeting, and Mr. McCarmick then presented the balance sheet, which showed a balance in the bank of £29 14s. 6d.

On the motion of Mr. McKinna, seconded by Mr. S. Wharam, the balance sheet was adopted.

ELECTION OF OFFICERS.

Mr. W. CRAWFORD : In the absence of our President, I may be allowed to say what a good president he has been during the year. Those who were at Sheffield will remember the manner in which we were treated, and appreciate it. Next year will be a very big one, with the International Congress, and we do want a man to represent us this time. I have great pleasure in proposing that he be re-elected for another year.

Mr. J. H. GILLESPIE seconded.

Mr. McCARMICK : I have very great pleasure in rising to support that resolution. He has been an admirable President, and he has satisfied the Society in every way. [Carried].

Mr. MASON proposed that Mr. G. E. BOWMAN be elected the Senior Vice-President, and Mr. W. P. WESTON and Mr. S. E. SAMPSON as Vice-Presidents.

Mr. M. ROBINSON seconded, and the motion was adopted.

In the absence of the newly-elected senior Vice-President the chair was then taken by Mr. S. E. Sampson.

Messrs. McCARMICK (Hon. Treasurer), J. CLARKSON (Hon. Sec.), A. W. MASON and W. CRAWFORD (Auditors) and the same members of Council as before were re-elected.

New Members. The following nominations of new members were received: Messrs. VINE, Settle; THEXTON, Pontefract; and NICHOLSON, Bridlington.

Mr. CLARKSON : During the coming year Mr. Mason comes off the Council R.C.V.S. He has been a member for nearly a quarter of a century, and the Council thought that if he would consent to stand again, the Society ought to ask him to be their official nominee. I have great pleasure in nominating him.

Mr. WHARAM : I have great pleasure in seconding that Mr. Mason's work on the Council is well known, and as regards the representation of the Society, I don't think we can have a better man.

The motion was adopted, and Mr. Mason in thanking the meeting said : I thank you very much for the compliment and honour you have paid me in making me your official nominee for the Council. You know I have been your representative for a number of years, and my past services must certainly have been appreciated or you would not have nominated me to-day. For the last two years I have not perhaps been such a good attender at the Council meetings as I used to be in former days, but I do endeavour to attend these meetings if there is anything important going on. There are important questions before us at the present moment, and when there is anything particular on I will attend. Thank you very much for the compliment.

It was decided to amalgamate with the usual Societies for election purposes.

Mr. McCARMICK said it seemed that one member gave it as his excuse for non attendance that the meeting was always held on a Friday. He begged to propose that the Council take into consideration the advisability of altering the day of the meeting from a Friday to a Thursday.

Mr. McKINNA said the members present might express an opinion as to what date was most suitable for them.

Mr. SAMPSON thought they might take a poll by a show of hands, and this resulted as follows : Friday 11, Thursday 7, Monday 1.

QUITTOR.

Prof. A. GOFTON, F.R.C.V.S., Royal (Dick) College.

I would feel that some apology was necessary for introducing such a time worn subject as quitor if it were not for the fact that in so doing I am acting on the suggestion and invitation of your President.

Unanimity of opinion does not exist in regard to the use of the term quitor, in respect of the causes and methods of origin of the conditions to which it is applied, or in regard to the most appropriate line of treatment. For these reasons, and also because its treatment calls for considerable work with not infrequently disappointing results, quitor remains a subject of perennial interest. I have no new facts to place before you, I merely submit my views for your consideration and criticism. I purpose limiting my remarks to the definition of the condition, and to its method of origin.

A system of nomenclature which permits of the application of one name to two or more essentially different conditions calls for unqualified condemnation. The term quitor is deprived of any real meaning or significance if it is used without limitations, or to put it in

other words, if it is applied to several conditions presenting similar symptoms but differing essentially in cause and nature. One cannot, therefore, emphasise too strongly the desirability of attaching a definite meaning to the term.

One cannot, with any confidence, claim general agreement on more than two points in regard to what constitutes a quittor—a suppurating wound usually in the form of a sinus, and chronicity. In respect of location, there is fairly general agreement, but one feels that even here one is not on too sure ground. It is usual to describe a quittor as associated with a wound on the coronet, but that is not sufficient, because, as I hope to be able to show presently, a condition essentially the same as that which is associated with the chronic suppurating sinus in the region of the coronet may exist in the absence of a wound in that position. For this reason I prefer to describe a quittor as located within the region of the lateral cartilage. By some the term quittor is also applied to chronic suppurating wounds located on the coronet, but which are out with the region of the cartilage. In my experience it is not usual to apply the term to such conditions, since they are generally without material difficulty recognisable as dependant on conditions essentially different from those associated with the wound located in the region of the cartilage. But if it be assumed that such use of the term is common, it must be admitted that the great majority, probably not less than 90 per cent. of the chronic suppurating wounds located on the coronet and to which the term quittor is applied, are situated within the region of the cartilage.

These features are merely symptoms, and give no indication of the real nature of the conditions to which the term is applied. Careful systematic examination and investigation of all chronic suppurating wounds located in the region of the lateral cartilage of the foot will show that probably 100 per cent., certainly not less than 95 per cent. are dependant on necrosis of a portion of the lateral cartilage. This is a distinct condition, and merits the application of a term the use of which will clearly and unmistakably indicate its occurrence. If the term quittor is to remain in general use and is to possess any real significance, I would urge the adoption of the suggestion made recently by the late Mr. Hunting, that the name be applied to this condition and no other. Difficulties in the way of differential diagnosis may be urged against this restricted use of the term. But difficulties in diagnosis do not justify disregard of attempts to attain scientific exactness, or simplicity and clearness of nomenclature. Further, the difficulties which are encountered are seldom insuperable, and the cases in which the existence, or otherwise, of necrotic cartilage cannot be established by means available to every clinician constitute a very small proportion of the whole.

On the basis that quittor is to be regarded as a chronic suppurating wound dependant on necrosis of a portion of the lateral cartilage of the foot, the causes on which it depends, and the manner in which the necrosis is produced, may be considered.

Cartilage has a very limited blood supply, its vitality is low, and it appears to be very susceptible to injury. Its reparative powers rank amongst the lowest of the various body tissues, and once injured, necrosis appears to follow more readily than recovery. In the great majority of cases quittor is secondary to some septic process within the hoof, in the course of which the septic material is brought into intimate contact with the lateral cartilage, producing serious injury to, and necrosis of, a portion of it. It is well recognised that the primary injury responsible for the sepsis may be inflicted to the coronet or to the ground surface of the foot in the region of the heel. The injuries in the latter position are responsible for the majority of quit-

tors. Pus is formed beneath the horn at the heel. It is not liberated until the pus has commenced to separate the horn from the corresponding sensitive structures. It travels in the direction of least resistance, which naturally varies according to its primary location. It may be the sole, or the bar, or both, which are principally under-run. It is then extremely rare for a quittor to result. When the horny and sensitive laminae are separated, quittor is almost inevitable unless prompt and efficient measures of relief are taken. In a very short time pus will be discharged between the horn and the skin at the coronet, and its escape will relieve in some measure the pain of the condition. But the relief is only temporary. The symptoms recur with the formation of a second abscess above the original point of discharge. This abscess breaks through the skin, leaving the discharging sinus, which is the external evidence of the establishment of a quittor.

Once infection has penetrated up the wall beyond a certain point, especially when the location of the primary infection is within the region of the wing of the pedal bone, the removal of the horn from the ground surface of the foot will rarely permit the escape of the whole of the pus, or succeed in preventing its appearance at the coronet, and the formation of the secondary abscess. The anatomical arrangement of the parts makes its escape by the lower opening almost impossible unless the separated wall is completely removed.

The first necrotic areas of cartilage found in quittors which arise in this way are invariably situated along the union of the cartilage with the wing of the os pedis, and on the outer or superficial surface of the cartilage. If transverse sections of the foot be examined, it will be found that this is the only position between the ground surface of the foot and the coronet, in which pus has an opportunity of lodging. In this position a certain amount of connective tissue is interposed between the laminae on the one side, and the bone and cartilage on the other. Below this point the horny and sensitive laminae only are interposed between the bone and the horn of the wall—both unyielding structures. Above it the cartilage and the horn are equally closely approximated. Considerable resistance, therefore, exists to the passage of pus either in an upward or in a downward direction from this position, hence its tendency to accumulate. The proof that it does lodge and is retained in this position, can be obtained by any one who takes the trouble to remove the separated wall shortly before or after pus has appeared at the coronet between the skin and the horn. The result of its retention is necrosis of soft tissue and then of cartilage, changes which are not long delayed. The secondary abscess, which is the first external evidence of these necrotic changes, is formed by the further penetration of the pus in an upward direction between the coronary band and the lateral cartilage, and its accumulation in the subcutaneous tissues.

The extreme angle of the heel, where the horn of the wall is reflected to form the bar, is another position in which quittor frequently takes its origin. Here the changes are similar, but the course and symptoms are somewhat modified. If transverse sections of the foot be examined in this position the sensitive laminae alone are found interposed between the cartilage and the horn. When infection of the soft tissues occurs, pus penetrating between the sensitive laminae is brought into immediate relationship with the cartilage with results equally as damaging as in the former case, but which probably occur at an earlier period. As a consequence, quittor is an almost inevitable result of infection of the soft parts unless immediate steps are taken to release pus when it forms in this situation. If no exit for the pus is provided on the ground surface of the foot, the usual abscess appears on the coronet and the case follows the usual lines. If an opening be made at

the angle of the heel at a slightly earlier period of the case, the pus escapes, but a sinus will remain. There is, however, no lodgment of pus between the ground surface of the foot and the coronet. The insertion of a probe into the sinus will demonstrate at once that the cartilage is exposed, and if further proof that necrotic changes have taken place be required, it is furnished by the failure of the ordinary simple measures to arrest the continued discharge. Provided this lower opening is kept patent, a considerable period—it may be as long as two months—may elapse before any abscess or sinus appears on the skin above the coronet. The condition present is essentially the same as quittor with a wound on the coronet. Sooner or later, as the result of obstruction to the free escape of discharge from the lower opening or of extension of necrosis of cartilage, a secondary abscess forms on the coronet and the usual symptoms of quittor are presented.

In the case of injuries to the coronet the process is not difficult to follow. The tread or other injury may by its direct effects produce necrosis involving cartilage as well as soft tissues, or, indirectly, the same changes may take place in consequence of bacterial infection. In either case a wound or sinus is established, associated with more or less extensive necrosis of cartilage. In quittors arising from coronet injury it is not infrequent to find the necrotic process confined to the inner or deep face of the cartilage. The position of the primary injury affords the explanation of this in most cases. Given a deep-seated abscess on the coronet extending down on to the inner side of the cartilage, the facility with which pus may penetrate along the deep face of the cartilage is easily appreciated on an examination of the extremely loose connective tissue which lies between it and the firmer structures which form the great mass of material interposed between the inner and outer cartilages of the foot at the heel. It is a matter of common observation in these cases that the necrotic cartilage is usually situated at the union of cartilage and bone, and it is in this position that the anatomical arrangement of the parts is responsible for a check in the downward progress of the pus. There is thus the closest similarity in the progress of events which result in necrosis of cartilage, no matter in what position the necrotic area of cartilage is situated.

The chronicity of quittor is attributable to the slowness and difficulty with which necrotic cartilage is eliminated. Necrotic tissue always provokes a reaction in the immediately adjacent living tissues. In the case of cartilage this reaction appears to be at a minimum, and the separation of the dead from the living is effected with great slowness. Once the process of separation is complete the elimination of the dead material is frequently impossible, owing to the smallness of the aperture by which alone escape is possible. Evidence of this is commonly obtained in the operative treatment of old standing quittors by the discovery of necrotic cartilage completely detached, and more or less embedded in granulation tissue. Such necrotic areas of cartilage are constantly bathed in pus, and their septic condition is an important factor in the perpetuation and extension of the morbid process.

At the conclusion of his address, Prof. Gofton gave a demonstration by performing the radical operation on a horse's fore foot. Specimens were also displayed to the members.

DISCUSSION.

Mr. SAMPSON said they had all been very interested to hear Prof. Gofton and see his able demonstration on the foot. Prof. Gofton would be very pleased to answer any enquiries or suggestions that might be made.

Mr. BOWES: I am sure we are all very much obliged to Prof. Gofton for coming down from Edinburgh and

giving us this interesting paper and a description of the operation. As Prof. Gofton says, there are quittors and quittors, and a good many of the cases we call quittor that recover comparatively easily are not quittor cases. So far as a real bad quittor is concerned, my experience of late years, since I am not quite so active as I used to be, has not been very successful. In the old days I have seen what seemed to be very radical operations, but they were not done with the accuracy that Prof. Gofton has shown. The milder cases I have found to recover after injections. I want to refer to the treatment which has become more common recently—the injection of vaccines. I have used anti-suppurine, which consisted of mixed cultures of the organisms generally present in such conditions. During the past few years I have used a good deal of anti-suppurine, and the majority of the cases have done extremely well. The only other treatment necessary is cleanliness of the part, but many of the cases had been on farms where cleanliness had not been observed. I should be glad to hear from Prof. Gofton if he has had experience in the use of vaccines. If a fair percentage of recoveries could be got by that treatment alone he personally would undertake it rather than the operation.

Mr. MCKINNA said he was very interested in what Mr. Bowes had said, and he was also interested to know whether any other member had tried the treatment by injections of anti-suppurine. He had been wonderfully successful in the treatment of quittor by treating symptoms, as it might be said. He had used perchloride of mercury, not to act as a caustic, but as a powerful antiseptic. He had never been much encouraged to employ the radical operation. Each man has to use his own peculiar treatment in cases that arise, but he had not done that particular operation, which was most interesting to him. They had always to consider the matter from the standpoint of "Would it pay?" and they had to look at things from the commercial standpoint, and not from the surgical point of view in which they would be so much interested.

Another member asked if Professor Gofton could explain how one very often got permanent lameness after operation in the fore foot, but not in the hind.

Mr. CRAWFORD said he had been very interested to see the operation done. The point was, how long was it going to take afterwards for the filling up of the hole that was left. Getting back to work was what they had to consider. Like Mr. Bowes, he was a great believer in anti-suppurine.

Prof. GOFTON: Six to eight weeks.

Mr. A. ELLISON thanked Prof. Gofton for his extremely interesting paper. Some years ago he got a number of cases of quittor. He used to find by the probe what portion of the cartilage was diseased, and then endeavour to make an ordinary wound of it, and remove any portion of cartilage found to be diseased. He had seen an animal go back to work again sometimes in three weeks or a month.

Mr. T. C. FLETCHER said he thought that Professor Gofton's radical operation was one for which many of them had not the time or patience. He had been careful in watching the operation as performed by Prof. Gofton, and he must say that before he attempted it on a living foot he would try all the means possible, including anti-suppurine. He was sure they were all extremely obliged to Prof. Gofton for his illustration of the mode of operating.

Mr. W. ACKROYD said he had to thank Professor Gofton for his demonstration. He would like to have some idea of the treatment of quittor at varying stages. He took it that the radical operation which so many shied at was for a chronic case, which had not yielded to other methods, and he would have liked to have heard something as to other methods. There was one hopeful point about Prof. Gofton's observations, and

that was that one need not remove the whole of the cartilage. As other speakers had remarked, it was not a question of surgery, it was a question of what one could do economically for one's client. It would be interesting to know what number of horses failed to go sound after a radical operation.

Mr. SAMPSON said it would be interesting to know how long Prof. Gorton advised leaving an ordinary case of supposed quittor before attempting a radical operation. That was, assuming that quittor had been treated for one, two, or three months, what was the earliest time the Professor would advise a radical operation. Personally, he would be one of the shy brigade. He had seen operations performed, but lameness followed.

REPLY.

Prof. GORTON discussed the partial operation as compared with the radical operation. Personally, he preferred, as far as it was possible, the partial operation. His experience of the radical operation was that sometimes, though not always—not in the greater percentage of cases—one got a lameness which was permanent. He, therefore, preferred to do the partial operation as far as it was possible, and if one could trace and discover localised areas of cartilage, in the great majority of cases if the necrotic cartilage was removed with a minimum of injury to the remaining healthy cartilage, a satisfactory recovery was secured in about half the time required for a radical operation. The cases for radical operation were those which were old standing, where one found the necrosis had extended well forward. In these old standing cases, which had been going on indefinitely, it was not much use attempting anything but the radical operation since such cases almost invariably presented several areas of necrotic cartilage connected with each other by sinuses which were frequently difficult to trace.

With regard to the question of lameness, it was admitted that in a certain proportion of cases permanent lameness did follow the radical operation. The question had been asked—What was the cartilage replaced by? It was obviously replaced by the reproduction of the surrounding parts, that was to say, fibrous tissue. It had been suggested that the lameness was due to the newly formed fibrous tissue being less yielding, but as a matter of fact fibrous tissue was more yielding than cartilage. So far as his experience went, it had led him to the conclusion that it was the injury to the ligament which was responsible for the lameness, since lameness only followed when operative interference was carried into the region of the ligament of the joint.

Mention had been made of the open joints. This was always a possible accident of the radical operation, but the great point was to recognise when the joint was opened, and then take adequate steps to prevent serious trouble following. The accident did not necessarily make the case hopeless. Sepsis and rough handling of the cartilage, involving fresh injury to it, were two main explanations of failures of the partial operation.

The economical side of the operation had to be taken into consideration, but situated as he was, he was only too glad to be able to secure cases to operate upon for demonstration purposes, independently of the economical side. The private practitioner could not, of course, accept cases on those lines.

He could not say anything as to the value of anti-suppurine in the treatment of the disease. Unless one made one's own vaccine from the patient, it was just a chance whether one got the right organisms or not. If he were going to use a vaccine he would prefer to make it from the patient. One of two things was necessary to bring about a cure in quittor, the elimination of the cartilage which was diseased, or the rendering of it aseptic so that the tissues could grow round it. He did not know whether the latter ever occurred, but

theoretically it seemed possible. With anti-suppurine one might conceivably destroy the infection and thus permit of healing and recovery.

On the motion of Mr. Bowes, seconded by Mr. Fletcher, Professor Gorton was cordially thanked for his address, and a vote of thanks to Mr. Sampson for presiding concluded the meeting.

J. CLARKSON, Hon. Sec.

WESTERN COUNTIES VETERINARY MEDICAL ASSOCIATION.

[NATIONAL V.M.A. SOUTHERN BRANCH.]

The 71st general meeting was held at the Great Western Hotel, Taunton, on Thursday, November 27, when the President, Mr. C. E. Perry, of Bristol, occupied the chair, other members present included Messrs. P. G. Bond, Plymouth; E. W. Bovett, Bridgwater; A. J. Down, Sampford Peverell; R. E. L. Penhale, Torrington; Wm. Roach, Exeter; and H. E. Whitmore, Langport.

The minutes of the last meeting were read and confirmed.

Apologies for non-attendance were read from Prof. Hobday, Messrs. Wm. Ascott, W. H. Bloye, John Dunstan, G. H. Gibbins, Wm. Penhale, W. H. Richardson, A. G. Saunders, G. Parker Short, and W. P. Stableforth.

Condolence. Mrs. Elder wrote thanking the members for their expression of sympathy on the death of Mr. G. H. Elder.

Since the last meeting the death had occurred of Mr. Thos. Olver, of Truro. Mr. Olver was one of the founders of this Association, and always took a keen interest in its welfare. The Hon. Sec. was requested to convey a vote of condolence to his relatives.

The Hon. Sec. was directed to convey to Mr. G. Parker Short, of Torquay, who is suffering from a long and severe illness, a message of sympathy and hopes for his speedy and complete restoration.

New Member. Mr. A. HART, of Honiton, was unanimously elected a member of the Association.

TENTH INTERNATIONAL VETERINARY CONGRESS.

A letter from Mr. Garnett as to payment of subscriptions was referred to the Hon. Treasurer to deal with.

PRESIDENTIAL ADDRESS.

MR. C. E. PERRY, Bristol.

Gentlemen,—I must first of all thank you for electing me President of your Association for the year, and I must say I very much appreciate the honour you have conferred upon me. I appreciate it for more reasons than one; when I first came to your meetings, some fifteen years ago, I felt quite at home at once, although I did not personally know any of the members present. There is always that feeling of good fellowship at all your meetings which I cannot express in words. I have attended meetings of other veterinary associations, and I am convinced there is not the good feeling existing towards one another that we have in this Western Counties Association. I never remember attending a meeting of this Association but I have gained some knowledge, and my regret is that I cannot attend more meetings than I do, owing to places of meetings being too far from me.

It is usual for the President to say something about the veterinary profession at the time present. The most important matter now before the profession is the Veterinary Surgeons Act Amendment Bill now before

Parliament, and I think we all hope that it will soon become law. It is absolutely necessary to put the Royal College of Veterinary Surgeons' financial position on a sound basis, and no doubt the Bill will do so. I hope that one of the first things done by the Council when they are in a financial position to do so, will be to give the Registration Committee more power to put down quackery and patent medicines. Money is wanted to carry out the work, and at present the Committee are very much hampered for the want of funds. I hope the Council will study the wants of the general practitioner before they start rebuilding the Royal College of Veterinary Surgeons on a better site, as has been suggested, or enlarging the museum and library. These improvements we would all welcome, but there are many other more pressing needs that require attention first.

Next year an International Veterinary Congress will be held in London. Some £4000 are required to finance the Congress, and I think it is the duty of every veterinary surgeon in the country to contribute to the funds. Our Treasurer has given us a good lead by subscribing one hundred guineas; we, as an Association, have also subscribed, but we all individually ought to subscribe what we can afford.

This Veterinary Congress ought, and I think will, bring home to the general public the important position the veterinary surgeon ought to occupy in the country. What are the prospects of the veterinary surgeon; how do we stand to-day as a profession? Some people say the day of the horse is going, that very shortly there will be no horses to treat, and that we as a profession must go too. That, I think, is certainly wrong. No doubt motor traction has come to stay; horses are being replaced daily by motor for carriage work, and for general hauling. Some veterinary surgeons, particularly town men, have, and will suffer, but it is my candid opinion that the horse will always be wanted in this country. Hunters are more valuable than ever, the Army horse is a necessity, and farm horses are required on the land; in fact horses of all descriptions are more valuable to-day than I ever remember.

Cattle practice is on the increase, becoming more scientific and more remunerative. To-day there is more demand for milk than ever there has been, and in future milk will be one of the principal articles of diet. I think there is a great future for cattle practice.

Some years ago many veterinary surgeons would not condescend to undertake the treatment of dogs; but to-day it is one of the most lucrative branches of the profession, and is certainly very much on the increase. Personally, being veterinary surgeon to several dog shows and clubs, I am brought into contact with owners of dogs, and dog practice is a very important part of my every-day work.

Then, again, recent legislation has made more work for the veterinary surgeon. The Coal Mines Act, making it compulsory to have every horse malleined before being put underground, and providing for better veterinary treatment for horses when underground, has certainly brought grist to the mill for many like myself who attend colliery horses and go underground.

The Tuberculosis Order has made work for veterinary inspectors and will make a lot of extra work when the Milk and Dairies Bill is passed into law, making compulsory periodical inspection of all dairy cattle.

Apart from general practice the public are rapidly realising the need for proper control of the milk and flesh food supply, and who is more fit to do that duty than the veterinary surgeon? Further, public health legislation is certain to bring more work to us as a profession.

I should like you to think how our daily work has changed since I was a pupil twenty years ago. Then

tuberculin and mallein were not in daily use, there was no preventive vaccine for quarter-evil, no preventive vaccine for distemper, no anti-suppurine, streptococcine, etc. We had no curative injection for milk fever. Think what these new treatments and diagnostic agents bring us in as a profession.

I think, gentlemen, from the remarks I have made we may conclude that although our outlook is perhaps not so good as it was some years ago, yet it is not so bad as we are sometimes apt to think it is, and although our work has changed and in some way diminished, we must be thankful that it has increased and we trust it will still continue to increase in many other ways. Gentlemen, I thank you.

On the motion of Mr. Whitmore, seconded by Mr. Bovett, the President was thanked for his address.

CLINICAL CASES.

Mr. BOVETT exhibited two photographs of a twelve-year-old mare on which he reported.

On May 31st, 1912, I examined an ordinary farm bay mare with some skin affection which covered the whole of her body, the eruption seemed to come in crops, as some of the nodules could only be felt under the skin; others could be clearly seen resembling urticaria; others were rubbed blood red, and some were drying and healing under a scab. I had her dressed all over with the following lotion: Ol. tereb. Oj., Ol. picis Oj., Whale Oil Oj., Sulph. sub. lbij., this was well rubbed in with a scrubbing brush from the tip of her nose to the tip of her tail and all four legs, and gave powders of As. gr. x, with Ferri sulph., in the feed twice daily, the mare could not be worked, so the lotion was allowed to remain on, or rubbed off at grass. She was dressed over with this lotion four times, and continued the powders until the beginning of August, when I wrote my late friend the late Mr. Elder, and he suggested trying Pot. iodide. This I did for some time, but with negative results. I then wrote Prof. M'Fadyean, and he being away his assistant advised cod liver oil internally, suggesting it was due to malnutrition of some of the internal organs. This I did for some weeks, and also dressed her all over with cod liver oil several times, but with negative results. Early this month I received a message saying owner would not have anything else done to her, as she continually went down as if in pain, so I went and saw her and after having a couple of photos taken of her, had her destroyed, and made a post-mortem examination.

All the internal organs were healthy with the exception of the accessory lobe of the right lung, which was full of rounded tumours of the size of from a 5/- piece to 4 or 5 in. in diameter and somewhat flattened, and when cut into looked to the naked eye like the ray fungus of actinomyces looks under the microscope, or like a number of true ticks crowded together. The skin lesions did not go through the skin, the inside being quite smooth. Below each pin, underneath her arms and around her tail and behind her withers on either side were large tumours which resembled ordinary muscle when cut into, but quite bloodless, in fact they were yellow instead of pink. I sent on these parts to Prof. M'Fadyean and received his reply, which I have here. The mare was in very good condition when I saw her first, and you will see from the photos she had not lost condition in spite of the terrible irritation she was in for so long.

"Dear Mr. Bovett,

I duly received your letter of the 4th inst., and the specimens from the horse. Although we have devoted a good deal of time to microscopic examination of the parts, including skin, lung, and tumour, I am sorry to say that we have not been able to determine with certainty what was the cause of the mischief. The

lesions are very peculiar in character, and I do not think I have ever seen anything exactly the same before. I am quite satisfied that they have been caused either by bacteria or by some animal parasite, but we have not been able to identify any parasite in them. Can you tell me whether the mare had ever been out of England or not, and whether there was an opportunity for the disease to spread to other horses while she has been ill.—Yours faithfully,

J. M'FADYEAN.

Nov. 8th, 1912."

In reply to the points raised in Sir John M'Fadyean's letter I may say that the mare was bred in this district and had always been worked on the farm. There was no sign of the disease in any of the horses or other animals she came in contact with.

EPIZOOTIC ABORTION.

The PRESIDENT (Mr. Perry) : I have the care of a herd of 21 Jersey cows, and for two or three years have experienced considerable trouble from abortion. Recently three aborted in quick succession. I then took samples of blood from the remaining eighteen, and sent to the Royal College for testing, with the result that four more were certified as affected. The owner declared that this could not be so, but about three weeks before due to calve, three more aborted. I do not believe in the idea of "feeding off," and the affected cows are isolated and a separate bull kept for them.

Mr. PENHALE : In several cases of cows aborting within three weeks of the time due to calve, I have given it as premature birth, although the Royal College has said it is epizootic abortion. One of the best places to look for the bacillus is in the stomach of the calf. I certainly think that "feeding off" is not to be advised.

STRANGULATION.

Mr. BOND : I have recently come across three interesting cases in polo ponies. One of these was at a local show; the pony was shown from about 2 to 3 o'clock, and while in the ring was ridden by a heavy gentleman acting as judge. Shortly afterwards it was taken as if suffering from severe colic pains. A drench was given, but the animal gradually got worse, and was shot about 12 o'clock the same night. A post-mortem examination revealed a pedicle of fat about the size of a duck's egg, hanging down in the form of a string from the mesentery, and this had become twisted several times around the small intestine, causing strangulation. The other two cases were very similar.

Mr. PERRY : I was recently called to a case of colic, not a severe attack, but the animal had intermittent attacks lasting for about 10 minutes or so at a time. During the first day the horse had a drink or two of water and also passed manure and urine, but died in about 40 hours. On making a post-mortem examination I found the cæcum inverted into the large colon.

Mr. WHITEMORE . A short while ago I had a case where a horse gave more than the usual indication of the seat of the trouble. The first day the symptoms were of colic. The second day the patient repeatedly kept poking his nose into his flank, and suspecting inguinal hernia, I made several examinations, per rectum, without success, and on the third day he died. A post-mortem revealed a twist of the small intestine.

Mr. DOWN : I recently attended at a farm for the purpose of castrating two colts, and in the course of preparing for the operation I noticed that one of them appeared unwell, and on closer examination found it was suffering from tetanus. I made an injection, and of course declined to castrate. These colts had been brought home from an off-farm two days previously, where a cow had been killed by lightning. The farmer said to me "Has the colt been struck by lightning?" and I said I thought not. On the 3rd day the colt

died, and the same man that skinned the cow was employed to skin him. The owner persisted in making a claim on the insurance company, and in the ordinary way I was asked to give a certificate; this I did, certifying that the colt died from tetanus, but could not say it was caused by lightning.

WM. ASCOTT, Hon. Sec.

ANNUAL REPORT OF THE CIVIL VETERINARY DEPARTMENT PUNJAB.—By Lieut.-Col. J. FARMER, Chief Superintendent. [ABSTRACT.]

(Concluded from p. 366.)

BREEDING OPERATIONS.

Ninety-one bulls were supplied from the Hissar Cattle Farm on indent from 16 district boards and 13 were purchased locally. At the end of the year under report there were 544 bulls.

The system of supplying bulls is satisfactory. Some of the district boards purchase bulls for Rs. 200 and sell to responsible men for half the price. This is a very good method, but a sufficient number of men do not come forward to purchase. The most satisfactory method would be for the agricultural banks to purchase; this would place the responsibility of looking after the bull upon more people, because a larger number would have a share in the bulls. The Chief Superintendent has consulted Mr. Langley, Registrar of the Co-operative Credit Societies, who has very kindly helped him, and the Inspectors of the Banks have been consulted in the districts.

Cattle-breeding will always be handicapped until the letting loose of brahmini bulls is put an end to, or it be arranged for the pious hindus to consult the department before letting a bull loose. The present pious man cannot and does not wish to pay the price of a good animal, as prices have so greatly increased in the last few years. The department has carefully considered religious sentiment in this matter. The best way to deal with these useless animals would be to issue orders that all inferior brahmini bulls should be reclaimed by their original owners. If the animal is not claimed, it can be either sent to a goushala, if so desired, or castrated and sold by auction, and the money credited to the district board to go towards the purchase of a good bull.

Pious hindus in the future wishing to present a brahmini bull should be asked to contribute whatever money they wish to spend, to the district board who should add the necessary amount and purchase a good animal. It is more expensive to feed and keep poor than good stock.

At the close of the year there were 68 horses and pony stallions at work in the non-selected districts which is two less than the sanctioned scale. The produce of these animals is good.

There were 74 donkeys at work in the districts during the year which is one short of the sanctioned scale. Eight jacks were indented for and supplied during the year from the Hissar Farm.

Covering registers are now being more carefully kept, and the department is endeavouring to get more information regarding the young stock produced. The shortage of veterinary assistants rather handicaps this, as their time is fully taken up with treatment of diseases and castrations.

Horse shows were held in six districts during the year.

Cattle fairs were held in nineteen districts. Most of the important shows were attended by an officer of the Department.

Out of the balance of ten merino rams reported in paragraph 24 of the last year's report, four still remain.

Eight merino rams and 25 ewes were imported during the year and sent to Kangra. Merino sheep-breeding now looks more promising. The sheep-owners have been shown what is necessary. Those who opposed have now been convinced.

The establishment of subordinates at the end of the year was 190:—Veterinary Inspectors 15; Veterinary Assistants, 1st grade 34; 2nd grade 70; 3rd grade 71.

This is an increase of six men over the previous year. The Department is still in need of more men. The appointment of deputy superintendents and more veterinary inspectors and of assistants is now being considered.

General remarks.—The question of the veterinary staff being transferred to the district boards has been settled and the staff is to remain provincial.

Proposals to augment the staff by three Deputy Superintendents and to have one Veterinary Inspector for each district are before Government. It is to be hoped that these appointments will be sanctioned as the Superintendents have their time more than fully occupied, and have to work hard to keep the routine work up-to-date.

Cattle-breeding is progressing, but unless the department has extra inspectors, it is impossible for Superintendents to inspect every village and explain to the people what is actually needed. The Superintendents are constantly being consulted on matters regarding breeding; the people have now commenced taking a greater interest in cattle-breeding, as they see from the bulls supplied what can be done by the Department.

The question of ostrich breeding is under consideration. It is to be hoped that the matter will be carefully considered before being started.

Messrs. Woodley and Taylor have worked zealously, and the Chief Superintendent's thanks are due to them for the assistance they have rendered.

ANNUAL REPORT ON THE GOVERNMENT CATTLE FARM, HISSAR.

Review of the Chief Superintendent.

In consequence of the abolition of the Inspector-General, Civil Veterinary Department, the control of the Government cattle farm was transferred to the provincial government, and is now worked under the Chief Superintendent, Civil Veterinary Department.

The year under report has been remarkable mainly in that for the second year in succession there has been a partial failure of the rains; in consequence very little good grazing has been available and only 1,000 maunds of hay have been collected. The barani crop has been a failure. The canal supply is insufficient, and an experiment with a tube well for irrigation purposes is to be carried out. Owing to the excellent system of having rotation crops the cattle have been kept in good health in spite of scarcity conditions.

Owing to the increased demand for bulls for the districts and bullocks for the military department the present sanctioned strength of 1,500 cows will have to be raised to 2,000. The percentage of calves born during the year is smaller than it has been for some years; this is due to two famine years in succession.

The object of the farm is to produce the best bulls and jacks, and thereby to improve the breeding in the districts. If it were not for this, Government would be unable to procure the number of bulls required for the districts, and the jacks would have to be purchased in Europe.

The present quasi-commercial system of charging a nominal price for an animal issued to the district boards in the Punjab, and a higher price for one supplied to another province, prevents the farm from being self-supporting, and the idea of running the farm on commercial lines should therefore be abandoned.

The number of jacks issued is very creditable, and

the indents for the Punjab have been fully complied with. Mules issued to the service during the year were a very fine lot. Mule breeding in Hissar is a great success, and the mules are admittedly the best bred in India. The foalings during the year have been satisfactory.

Sheep breeding has progressed satisfactorily.

The revision of the farm establishment is now before the Government.

Mr. Branford has worked hard and deserves credit for his labours.

Report by Mr. Branford, Superintendent.

During the year under report the farm was in charge of Lieutenant-Colonel Farmer from April 1st to June 8th, and under my charge for the remainder of the year.

The farm is up to the present, still being run on the same lines as when under Inspector-General, Civil Veterinary Department. Stock in the shape of siege train bullocks, ordnance and transport mules, and donkey jacks are being issued to the Army Department; and stud bulls, donkey jacks, and half-bred Merino rams to district boards, native states and private buyers. Every endeavour is being made to maintain the stock at the high level of excellence reached while the farm was controlled by the Inspector-General, Civil Veterinary Department, and in this connection it is of advantage that the farm is under the supervision of its late superintendent and still reaps the result of his experience.

Apart from the grass famine the year has been a successful one. The demand for all classes of stock issued from the farm appears to be on the increase.

The years of scarcity have resulted in comparatively cheap labour and many improvements, especially as regards the cultivation, have been carried out, and provided there is a normal supply of canal water and the rains do not again fail, it is hoped to save sufficient fodder to put the farm into a safe position as regards the next period of scarcity.

Hæmorrhagic septicæmia broke out in the rains in the Chaoni Bir. In my opinion many parts of the Bir adjacent to the canal are contaminated with the organism of hæmorrhagic septicæmia, and after long breaks in the rains when puddles of water are almost dried up, the organism is present in sufficient quantities to form a fatal dose for any susceptible animal drinking; whereas a good fall of rain dilutes the bacilli sufficiently to render them innocuous. The same theory is applicable to outbreaks occurring here in the dry season as the result of floods and leakages from the canal. The organism is probably normally present in the canal water, in a state of dilution so high as to be innocuous, but as the puddles formed by over-flows, etc., dry up, a suitable temperature for reproduction of the organism is produced, and also the volume of water is lessened by evaporation, with the result that any animal drinking from such a puddle contracts hæmorrhagic septicæmia. Probably the policy inaugurated last year of preventing canal leakage as far as possible, and preventing access of cattle to low-lying areas liable to receive over-flows, has contributed to our immunity from the disease except in the rains. The disease caused 5 deaths as against 32 last year.

Black-quarter was responsible for 12 deaths, as against 6 last year.

Strangles.—Mild outbreaks only have occurred, causing no deaths.

Navel-ill still occurs, and with the large number of births and the limited staff on the farm, it is almost impossible completely to eradicate it.

Foot-and-Mouth Disease, as regards deaths, has been a contributory cause only, but in combination with the grass famine has had serious effects in retarding growth and development.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders† (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks	Slaughtered.*
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
GT. BRITAIN.													
Week ended Dec. 13	12		13				2	44	54	88	5	74	602
Corresponding week in	1912	9	9			1	4	4	64	133	3	62	678
	1911	19	19				7	16			17	51	552
	1910		29	30			1	4			22	37	388
Total for 50 weeks, 1913	560		614		1	23	149	385	2289	4481	198	2461	30560
Corresponding period in	1912	722	816		82	645	170	309	2748	5782	278	2843	38516
	1911	870	1078		19	487	205	494			392	2381	29214
	1910		1403	1668	2	15	337	990			449	1489	14147

† Counties affected, animals attacked: Hants 1, London 39, York, West Riding 4.

Board of Agriculture and Fisheries, Dec. 16, 1913.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders† (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks	Slaughtered.*
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
IRELAND. Week ended Dec. 13	...	...	...	...	...	...	...	...	...	...	16	...	13
Corresponding Week in	1912	...	...	...	...	...	...	...	3	8	5	25	
	1911	...	...	...	...	...	...	...	1	9	11	85	
	1910	...	...	...	...	...	...	...	1	9	1	16	
Total for 50 weeks, 1913	...	...	...	...	...	...	1	1	112	...	510	132	868
Corresponding period in	1912	...	3	3	68	382	...	...	64	...	358	211	1678
	1911	...	9	16	...	...	2	3	56	...	324	171	2499
	1910	...	7	13	...	...	1	2	64	...	435	90	2135

* These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Dec. 15, 1913

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Foot-and-Mouth Disease.

The existence of foot-and-mouth disease amongst cattle at Whitwell, near Welwyn, Hertfordshire, was confirmed on Monday. The usual precautions were taken to prevent the spread of the disease, and an Order has been issued prohibiting the movement of animals in a large area surrounding this affected farm.

The disease broke out in a herd of 53 heifers and bullocks, over half of which was affected. The animals have been slaughtered. The district scheduled under the Order of the Board of Agriculture comprises portions of the counties of Bedford, Bucks, and Cambridge, practically the whole of Hertfordshire, and the petty sessional division of South Mimms in Middlesex.

The outbreak occurred at Rose Park Farm, belonging to Mr. James Francis Tooley, and the subsequent Order prohibiting the movement of cattle in a large area surrounding the farm, have caused no little consternation in the district in view of the approach of Christmas. At Hitchin the Christmas fat stock show and sale, which was to have taken place on Tuesday, has had to be abandoned.

It is announced that owing to the outbreak the Hertfordshire Hounds, of which Lord Cavan is Master, will not meet until Wednesday, December 24th, at Chicksands Priory.

The cattle, over 50 in number, which were slaughtered, were cremated at Whitwell on Wednesday under Government Order.

The Tuberculosis Order—A Bad Case.

At the Salford Police Court on Friday, December 12th, F. Unwin, of Pump Farm, Werrington, near Stoke-on-Trent, was summoned for a breach of the Tuberculosis (Animals) Order.

Mr. Whitehead, veterinary surgeon to the Salford Corporation, stated that on October 21 he found a cow belonging to the defendant at the Cross Lane cattle sidings. The animal was in such a condition that almost anyone could see that it was diseased. When it was slaughtered a disinfectant had to be used before it could be thoroughly examined. It was the worse case of tuberculosis that had ever come under his notice. On October 24 witness saw four other beasts belonging to the defendant, and Unwin said he had paid £11 10s. for them.

In reply to the Stipendiary, Mr. Whitehead said that had the animals been sound they would have been worth at least £40. They were slaughtered, and three of them were diseased.

The defendant did not appear.

Mr. J. W. Jackson, Deputy Town Clerk, said the Board of Agriculture regarded this class of offence as most serious.

The Stipendiary (Mr. Peter Wilson Atkin) said that the first animal mentioned was evidently in a very bad condition, and the defendant would be fined £15 and three guineas costs. In the other case the defendant must be fined £15 and 5s. 6d. costs. The total fines amount to £33 8s. 6d.—*Manchester Evening News*.

Royal College of Veterinary Surgeons.

EXAMINATIONS IN LONDON,

At a meeting of the Board of Examiners held in London on December 8th for the Written, and on Dec. 12th, 15th, 16th for the Oral and Practical Examinations, the following gentlemen passed their Final Examination:—

Mr. A. H. Adams *	Mr. W. H. Priston
W. P. S. Edwards	K. H. Soutar
C. E. Huston	H. S. Wright
W. B. Howe *	G. Williamson *
G. F. Marais	

The following passed their Third Examination:

Mr. J. W. Beaumont *	Mr. P. S. Sparling
H. Chown	J. H. Stewart
J. Daly *	R. T. Smith
J. A. Edwards	L. D. D. Sewell
J. M. Knighton	J. W. Stanley
G. Simons	H. B. Williams *

The following passed their Second Examination:

Mr. A. Bayly	Mr. D. E. McRae
G. H. Bennet	E. O'Kelly
T. J. Dixon	A. Temple
E. W. Garry	P. F. Woodland
L. St. Bel Gollidge	

The following passed their First Examination:

Mr. P. W. Bloye	Mr. J. G. Foulston
J. A. A. Barlow	W. Gibson
E. C. Bowes	

Marked thus * passed with Second Class Honours.

EXAMINATIONS IN LIVERPOOL.

A meeting of the Board of Examiners held in Liverpool on Dec. 8th for the Written, and on Dec. 11th and 13th for the Oral and Practical Examinations, the following gentleman passed the Final Examination;

Mr. R. L. Lewis.

The following passed the Third Examination:—

Mr. G. Lloyd	Mr. E. J. B. Sewell
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The following passed the Second Examination:

Mr. S. S. Herbert	Mr. B. Whittam
S. T. Jackson	

The following passed the First Examination:—

Mr. T. Hare.

REVIEW.

A TEXT-BOOK OF HORSE-SHOEING FOR HORSESHOERS AND VETERINARIANS.—By A. LUNGWITZ, formerly Member of the Royal Saxon Veterinary Commission, late Instructor in the Theory and Practice of Horse-shoeing, and Director of the Shoeing School of the Royal Veterinary College in Dresden, Germany; and JOHN W. ADAMS, Professor of Surgery and Obstetrics, and Lecturer on Shoeing in the Veterinary School, University of Pennsylvania. Eleventh Edition, with 229 illustrations. Pp. 216. Price 7s. 6d. net. (J. B. Lippincott Company, Philadelphia and London).

This widely-known work has now reached its eleventh edition. An American translation of the tenth edition

has been in use for some years in the United States, and we are glad that the eleventh is now offered to English readers also.

A book of such established reputation does not demand much critical review. All that is necessary, we think, is to briefly indicate its scope. The first chapter—a long one—is devoted to anatomy, and, after briefly sketching the gross anatomy of the horse, proceeds to deal in much greater detail with all the components of the foot, including its locomotory attachments. The second chapter upon "The Foot in its Relation to the Entire Limb," is mainly physiological, and deals with growth and wear, the physiological movements of the hoof, lines of flight of hoofs in motion and the influence of weights upon them, and similar questions. Another long chapter follows upon the shoeing of healthy hoofs, and covers the whole subject—restraint and manipulation, preparing the foot, making, choosing, shaping, fitting, and nailing of shoes, and shoes for special classes of horse. This is followed by three shorter chapters upon the shoeing of forgers, winter shoeing, and the care of the hoof. Finally, we have three more chapters upon the shoeing of defective hoofs and lame horses—including general considerations, the various acute and chronic inflammations of the foot, and defects in the form and continuity of the hoof, and a short chapter on the shoeing of mules, asses, and oxen concludes the work.

We know no small work which treats the subject with such fullness of detail as this one. It condenses a great amount of information into a comparatively small space, and is simply and clearly written throughout. It will be very useful indeed to veterinary students and practitioners, and almost invaluable to farriers of the better class. We make the latter reservation advisedly, for, in this country at least, we know that there are still many farriers who will not care to go into the subject so deeply as this book will take them. This is our sole criticism of the work—it contains more information than some of the men for whom it was written are capable of assimilating. The rest will find it valuable, and we welcome it as a solid addition to our professional literature.

W. R. C.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, Dec. 12.

REGULAR FORCES. ARMY VETERINARY CORPS.

Capt. H. M. Durrant retires, receiving a gratuity Dated Dec. 13

Lieut. F. B. Sneyd resigns his commission. Dated Dec. 13.

SPECIAL RESERVE OF OFFICERS.

ARMY VETERINARY CORPS.

F. B. Sneyd, late Lieut Army Veterinary Corps, to be Lieut. Dated Dec. 13.

Messrs. MAW, SON & SONS, of Aldersgate Street, London, E.C., have again been appointed contractors for the supply of veterinary surgical instruments and appliances to the Army Veterinary Service.

Personal.

MACFARLANE.—At 385 Great Western Road, Glasgow, on the 9th inst., the wife of James Macfarlane, M.R.C.V.S. a son.

W. Bro. G. H. WILLIAMS, M.R.C.V.S., was on Tuesday, 9th inst., installed Worshipful Master of the Lansdowne

Lodge of Unity, No. 626. At the close of the installation, the customary banquet was held, W. Bro. G. H. Williams, Worshipful Master, presiding. There was a good attendance of Provincial Grand Lodge officers. The toasts were interspersed with songs by the Worshipful Master, Bro. R. Heath, Messrs. W. H. Munday and R. Moore, and a recitation by W. Bro. W. H. Brinkworth.—*The Wiltshire Gazette*.

Mr. T. M. INGLIS, M.R.C.V.S., has been sworn a Justice of the Peace for Forfarshire. He was quite recently, unanimously elected Chairman of the Parish Council of the Royal Burgh of Forfar.

The Hunting Memorial Fund.

Subscriptions received up to 7 p.m., Dec. 17th.

	£	s.	d.
Previously acknowledged	95	18	6
Mr. T. Salusbury Price, Brixton Hill, S.W.	5	0	0
Henry Thompson, Aspatria	1	1	0
H. Keeling Roberts, Bexley Heath	10	6	
Hugh A. MacCormack, Tufnell Park, N.	1	1	0
Sir John M'Fadyean, R.V.C., Camden Town	10	10	0
Maj. A. G. Todd, A.V.C., Aldershot	1	1	0
Mr. Joseph Abson, Sheffield	1	1	0
J. Thornton, Dorchester, Dorset	1	1	0
Sidney Villar, Harrow, N.W.	1	1	0
Wm. Reekie, Oxford St., London, W.	1	1	0
F. J. Taylor, Church St., Kensington, W.	10	6	
W. H. Brooke, Handsworth, Birmingham	1	1	0
	£120	17	6

HENRY GRAY, Hon. Sec. & Treas.

23 Upper Phillimore Place, W.

Cheques endorsed "Hunting Memorial Fund" and crossed "The London City and Midland Bank, Ltd. Kensington Branch."

OBITUARY

ALEXANDER MORRISON, M.R.C.V.S., Rhynie, Aberdeenshire. 1862, Graduated, Edin: June, 1880.

Mr. Morrison died on Dec. 9th, from anthrax, after five days illness. Aged 73 years.

EDWARD O'REILLY, M.R.C.V.S., Academy Street, Navan, Co. Meath. Lond: August, 1903.

Death occurred on Tuesday, Dec. 9th.

WM. WRIGHT, M.R.C.V.S., Thornhill, Dumfriesshire. Glas: July, 1882.

Death took place on Dec. 16th, from arterio-sclerosis, at the age of 53 years.

The late Mr. J. A. Thompson, J.P., F.R.C.V.S.

Mr. Thompson was born in Ballynahinch on Jan. 11, 1857, and was a son of the late Mr. Robert Thompson of that town. After receiving his primary education, he passed to the Royal School, Edinburgh, where he continued his studies, subsequently entering the Royal Veterinary College in that city, from which he qualified in 1881. For a brief period he acted as locum tenens to a distinguished practitioner in Wales, and in 1883, after a short residence in Lisburn, he came to reside in Lurgan, where he rapidly built up a large practice and took a prominent place in the life of the community. On the establishment of the North of Ireland V.M.A. some years ago he acted as its first treasurer, and in its second year was elected President. Mr. Thompson was also a member of the V.M.A. of Ireland, and of the Irish Central V.A., a veterinary inspector to the Department of Agriculture for Ireland, and to the County Councils

of Armagh, Antrim, and Down, and veterinary inspector to the Lurgan Urban Council and the Moira and Lurgan Rural Councils. His wide experience in his profession made his name well-known throughout Ulster, and he was frequently called upon for consultation in difficult or obscure cases. Many years ago his practice in Portadown necessitated his establishing a permanent surgery there, and this has for some years past been under the management of his eldest son, Mr. Robert W. Thompson M.R.C.V.S. In 1890 Mr. Thompson was elected to the membership of the old Board of Town Commissioners in Lurgan, and this position he retained with credit to himself and with much advantage to the ratepayers for thirteen years. Four years ago he was appointed to the Commission of the Peace, and it was generally recognised that no more popular appointment to the local magisterial bench had ever been made. He was ever very keenly interested in agricultural concerns, and the inauguration of the Lurgan Agricultural Association, and the success and popularity of its shows was largely attributable to his initiative and energy. He was a devoted member of the First Presbyterian Church and for years a member of its session. In Masonic circles he was much esteemed; being a P.M., and one of the founders of Ulida Lodge No. 151, a past officer of the Provincial Lodge of Armagh, a P.K. of Royal Arch Chapter No. 24, and an officer of Preceptory No. 134.

The funeral took place on Thursday afternoon, the cortege being one of the largest and most representative seen in the district for many years past. The chief mourners were Mr. Robert Thompson, M.R.C.V.S., Portadown; Dr. John A. Thompson, Edinburgh; and Mr. Charles G. Thompson, M.R.C.V.S., Lurgan (sons); Messrs. R. S. Hanna, Drumaness, and T. Briggs, Hollywood (brothers-in-law); Messrs. Vincent Briggs, Hollywood, and Robert Pringle, Belfast (nephews); Mr. J. Thompson, Hillsborough (cousin). On arrival at the New Cemetery, the remains were carried to the graveside by four relays of bearers—representative Freemasons, the members of the veterinary profession, members of the Lurgan Agricultural Association, and the staff of the Imperial Hotel, Portadown.

The floral tributes were numerous and very beautiful.

At a special meeting of the Lurgan Town Council, Mr. H. G. MacGeagh, D.L. (chairman) made touching reference to the death of Mr. Thompson. He said before proceeding with the business of the meeting the Council had a duty to perform, and to him, and he was sure to them also, it was a very sad one. Since they last met one of the most esteemed officials of the Council was no more with them. Mr. Thompson was a big man in every sense of the word. He was admired and esteemed, and indeed almost loved by every person with whom he came in contact. He had known Mr. Thompson for thirty years, and never knew of anything that was not to his credit. His death was much to be deplored, and he would be greatly missed in the town and in the wide circle of his friends and acquaintances. It only remained for them to extend their sympathy to Mr. Thompson's bereaved wife and children, and personally, on his own behalf and as Chairman of the Council he would propose that this be done.

The motion was passed in silence, the members standing with bowed heads.—*The Lurgan Mail*.

CORRECTIONS.

Re Vaccine Therapy in last week's issue (1) As a result of traumatic tension, should read, *circulatory congestion*. (2) Microscopically this condition is known as an hepatization, should be *macroscopically*. (3) The focal conditions improve owing to the bacteria in the lung centres being invaded by this first supply of anti-bodies, should read *fresh supply*. WM. SCOTT.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1329.

DECEMBER 27, 1913.

VOL. XXVI.

ABORTION IN SHEEP.

The Departmental Committee appointed by the Board of Agriculture to enquire into epizootic abortion have lately issued their third and final report on "Abortion in Sheep." An appendix by Sir John M'Fadyean and Sir Stewart Stockman is issued with it as a separate publication, and contains a detailed account of the experiments and observations upon which the report is based. The whole is of the greatest value to veterinary surgeons, and the following is only a very brief summary of it.

The report commences with some final references to contagious abortion in cows. The Committee are satisfied that "by means of one or other of the methods of diagnosis described in a previous report it is now possible to distinguish with practical certainty between cases of contagious abortion in cows and those of a sporadic or accidental character," and that the agglutination test by itself appears likely to be very serviceable in future in detecting the disease in its incubative period. Not so much progress has been made with regard to the immunisation of cattle, but the Committee are satisfied that it is already possible to confer a high degree of immunity, and regard this question as now beyond the laboratory stage of investigation. They suggest that it should be left in the hands of the Board of Agriculture for further observation and report.

But the great value of the report lies in its revelations concerning ovine abortion. The disease is both more common and more widely spread than many men suppose, as the long list of affected counties given in the report shows. Further, though Bang's bacillus is known to be capable of producing abortion in sheep, it is not the common cause of the ovine disease in this country. The only specific form of ovine abortion which the Committee have met with is due to a vibrionic organism. Full details are given of the morphological and cultural characters of this microbe, which is very like a spirochæte in appearance, though not in its cultural requirements. In the present uncertain state of the classification of spirillar organisms in general, this one is described as a vibrio. It is very important to note that, experimentally, this vibrio may cause abortion in cows as well as in sheep, and that two naturally occurring outbreaks of vibrionic abortion in cows have been met with—one in Ireland and one in Wales.

The alimentary tract appears to be the most common natural channel of infection, and generally, for some time before abortion takes place, there is an infective discharge from the vulva. As might

be expected from the very small interchange of pregnant ewes that goes on, the disease is usually enzootic rather than epizootic in character, not spreading rapidly from farm to farm.

The symptoms are not very distinctive—perhaps a sanious, mucoid vulvar discharge before abortion is the most significant one. Usually abortion takes place at an advanced period of pregnancy. Very often the foetus has died at a much earlier stage, though lambs may be born alive from an infected uterus at or about full time. Often both foetus and membranes are putrid when expelled, and metritis, which may be fatal, is not a rare complication. Post-mortem, in the later stages, the uterus shows œdema and congestion, with an abundant exudate between chorion and uterus. All the uterine contents—exudate, membranes, and foetus—contain the vibrio, and are virulent.

The spread of the disease under natural conditions requires further investigation; but it is certain that an ewe may discharge vibrios from the vagina, and thus be infective, long before showing any signs of impending abortion. It is doubtful whether the ram has much or any importance as a factor in contagion. There is also much still to be learned as to how long the vibrio can live outside the body. It seems to soon lose its pathogenicity when cultivated; and serious outbreaks of the disease do not usually occur on the same farm year after year. But nevertheless there is some evidence that the microbe may exist, saprophytically or otherwise, outside the body of the sheep.

The symptoms, circumstances, post-mortem lesions, and microscopical findings are all of importance in diagnosis. The agglutination test promises to be of practical value here, and the complement fixation test is also being worked upon. The possibilities of immunisation, and of serum and drug treatment are also being investigated, but no great advance has yet been made. The Committee, however, advance various recommendations for prevention—destruction of virulent material, isolation of aborting ewes and disinfection of their genitals, and, last but not least, the avoidance of penning ewes together in close proximity before lambing. So far, the Committee do not consider that legislative measures are applicable to the disease.

Practically, these two publications form the first account we have had of a hitherto unrecognised disease. They cost only a few pence; and every practitioner who is even occasionally concerned with sheep should purchase them. The report itself summarises all that is yet known regarding the disease; the appendix, which, besides its experimental detail, contains much valuable information gathered in the field, will be found even more instructive.

THE R.A.S.E. DEMONSTRATION.

The Report of the experiments at Woburn has been issued, and we reprint an abstract from it on another page. These experiments were not instituted for the information of the veterinary profession, but as confirmatory work by Englishmen in England, to bring the results to the notice of our agriculturists. There are, in several parts of the country, farms and herds which have been cleared of tubercle, and the results at Woburn, when they are brought to the notice of intelligent farmers, must strengthen the hands of those veterinarians who are working in that direction.

THE CONGRESS AND THE PUBLIC.

In a presidential address which we printed last week, appears an appreciation of an indirect result of the International Congress which, so far as we remember, has not hitherto been mentioned at any of the meetings of local Divisions. Mr. Perry said:—"This Veterinary Congress ought, and I think will bring home to the general public, the important position the veterinary surgeon ought to occupy in the country."

The mere fact of the presence of so large a number of men eminent in the profession, and representative of the Governments of many lands, must enlighten many of the public as to the value of the profession to the State.

ABSTRACTS FROM FOREIGN JOURNALS.

THE VAGUS NERVE AND SEA-SICKNESS.

In healthy men, irritations of the vagus nerve by means of physostigmine induce symptoms quite similar to those of sea-sickness. Dr. F. Fischer, of Naueim, states (*Münchener Medizin. Woch.*) that this fact led him to the view that sea-sickness depends upon irritation of the vagus. He therefore attempted to allay this irritation by means of atropine, and obtained brilliant results. Fifty-two sea-sick passengers, most of them very severely affected, were treated with atropine. The drug was administered subcutaneously in doses of 1 milligramme to men, and $\frac{2}{3}$ milligramme to women. The result was that the symptoms of sea-sickness disappeared in a short time, and, although the sea became still more stormy, did not reappear. The theory that sea-sickness depends upon irritation of the vagus is also supported by the fact, attested by numerous clinical observations, that men who already clinically show abnormal sensitiveness of the vagus are especially susceptible to sea-sickness. —(*Berliner Tier. Woch.*)

THE REARING OF GERM-FREE WARM-BLOODED ANIMALS.

Prof. Küster, of Berlin, has published (*Deutsche Medizin. Woch.*) an article concerning this subject, upon which he has worked for some years. Schot-

telins, in opposition to Nuttall and Tierfelder, believed that he had proved it to be impossible for animals to live and thrive in the absence of any germs. He hatched chickens from disinfected eggs in an aseptic incubator, and reared them in a germ-free chamber with sterile air and food. He found that, despite abundant food, they soon died with persistent loss of weight; while control chickens, or sterile chickens which had been intentionally infected with certain microbes, remained alive. Cohendy, who afterwards repeated these experiments, came to the opposite conclusion, finding that a germ-free life was possible to vertebrate animals without any injury to the organism.

Küster took up the question, and chose the goat as his experimental animal, because it seemed to him to be especially suited to the purpose. In the years 1911—1913 he succeeded in overcoming great technical difficulties, and carrying out three experiments. These led him to conclude (1) that it is possible for the larger mammals, especially goats, to be brought into the world aseptically by Cæsarean section, and to be reared by adequate precautions in sterile air upon sterile food, and thus be brought up germ-free, and (2) that the development of these germ-free animals must be regarded as equal to that of normal ones.—*Berliner Tier. Woch.*

[These experiments were carried out upon guinea-pigs a considerable time ago; but I think that Küster is the first to attempt them upon so large an animal as the goat.—*Transl.*

PARALYSIS OF THE QUADRICEPS FEMORIS MUSCLES.

Hugo Marcus, of Wiesbaden, records the case of an Oldenburg mare, six years old, and very well nourished, which suddenly showed symptoms characteristic of azoturia. The animal had been standing in the stable for eight days; and, on the day of the illness, had been taken out for the first time in cool, calm weather. When Marcus saw her she was sweating, and showed paralysis of the hind quarters, especially upon the right side. The left hind limb could still bear some weight, but the right one was quite powerless.

The muscles of the croup were not abnormally hard, and were not sensitive. On the other hand, the muscles of the quadriceps femoris region were extremely tense, as hard as a board, and very sensitive. The breathing and the action of the heart were somewhat accelerated, and the temperature was 100.2 F.

Marcus bled the mare freely, gave arecolin subcutaneously, and drew off the urine with the catheter. The urine showed no striking abnormality. Embrocations were also rubbed into both the croup and the thigh.

After about two hours, the mare had improved so far that the left hind limb could bear weight well, but the condition of the right one remained unaltered. The next day, and during the following week, the right limb remained quite incapable of bearing weight. Various methods of treatment

(embrocations, massage, warm fomentations, electricity, and injections of caffeine) were energetically adopted without the least success. From the second week muscular atrophy set in, and after about four weeks had become excessive, the skin hanging in folds over the atrophied muscles.

The mare was valuable so treatment was persisted with despite the unfavourable symptoms. Electricity was now discontinued, as it seemed to have no effect upon the condition, and its application agitated the mare. Exercise was tried in its place, and the mare was slowly led several times daily. At first, in exercise, the affected limb was trailed with the toe upon the ground almost throughout; but now and then weight was borne for a short moment. At first, also, movement was very fatiguing to the horse, and about ten minutes progression caused violent sweating. The exercise was, however, methodically continued, and had a good effect. Six weeks after the beginning of the attack, the mare could again bear weight well upon the limb when standing. Lameness during progression still persisted, but it was now possible to continue the daily exercise more energetically.

From this time forward the improvement was steady, and the atrophied muscles slowly increased again in size. Three months after the first attack, the mare only showed a slight lameness at the trot. In another three weeks she trotted sound, the affected muscles had quite regained their normal volume, and recovery was complete.—(*Berliner Tier. Woch.*)

CALCAREOUS PRECIPITATIONS IN THE BOVINE BLADDER.

Van der Veen records (*Tydschr. voor Veeartsenijk*) the two following cases. The first was a cow which for some time had shown disturbances in the emission of urine. From time to time micturition took place involuntarily, especially when the animal lay down. Six months previously she had had a laborious parturition, and the urinary troubles had appeared a very few days afterwards.

Vaginal exploration showed that the lower division of the urethral valve was ruptured, thus causing the disappearance of the suburethral diverticulum, so that the organs were similar to those of a mare. The exploring finger easily passed into the bladder, and felt that its posterior portion was covered with a hard crust, and presented a stony consistence.

A calcareous incrustation was diagnosed, and intra-vesical injections of a 5% aqueous solution of hydrochloric acid were advised. The condition improved, but complete recovery did not take place.

The second case was a newly purchased cow, which showed urinary troubles. The urine was emitted in small quantities at a time, and micturition necessitated violent straining. This cow had had a very difficult parturition the year before. As in the preceding case, vaginal exploration showed the disappearance of the suburethral diverticulum. While palpating the floor of the vagina, the author felt a hard body of almost the shape and size of a

hen's egg, which was mobile underneath the membrane. The finger, introduced into the urinary meatus, was able to discern that the surface of this body was smooth except at one point, where a rugged prolongation existed. The case was, therefore, one of vesical calculus, and the author attempted first to extract the calculus whole with the forceps. Fearing, however, that the attempt might cause rupture of the meatus, he soon decided to break up the calculus within the bladder, and extract it in pieces. This was done, and the urinary troubles then rapidly disappeared.

The author thinks that in both these cases the difficult parturition had been the starting point, by causing the penetration of micro-organisms into the bladder. He especially mentions the *micrococcus ureal*, which causes an ammoniacal fermentation with the precipitation of calcium carbonate. It is impossible to explain why the calcium carbonate caused a calcareous incrustation of the mucous membrane in one animal, and formed a calculus in the other.—*Annales de Méd. Vét.*)

THE INFLUENCE OF THE PITUITARY BODY UPON THE KIDNEYS.

Prof. Simmonds, of Hamburg, reviews (*Munchener Mediz. Woch.*) the actions of the internal secretions of the pituitary body. These seem to vary according to which of the three portions of the body—anterior lobe, posterior lobe, or the intermediary portion—is concerned in the secretion. The secretion of the anterior gland-like lobe has a relation with the processes of growth of the skeleton and the connective tissue. In the posterior lobe, consisting of nervous elements, the investigations of B. Fischer show that there seems to be a secretion having an important effect upon tissue change and the genital glands. As to the intermediary portion, Schäfer concluded from animal experiments that the pituitary body exercises an effect upon the vessels and cells of the kidney, and that the posterior lobe and intermediary portion are especially concerned with this function.

Simmonds now brings forward a case showing a connection between pituitary disease and diabetes insipidus in the human subject. The case was one in which a carcinomatous mammary gland had been removed. About two months after the operation, carcinomatous metastases formed in different parts of the body, and at the same time a severe and obstinate polyuria, which certainly had not been present before, set in. Dissection showed carcinomatous degeneration of the posterior lobe of the pituitary body, so that secretion from that lobe was out of the question. The anterior lobe and the intermediary portion were unaffected. As, according to Schäfer, the anterior lobe has certainly no influence upon the secretion of urine, the diabetes insipidus in this case must be attributed to a functional hyper-activity of the intermediary portion.—*Berliner Tier. Woch.*

W. R. C.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

REPORT and RECORD of the Experiments carried out at Woburn for the purpose of demonstrating that by means of isolation it is possible to rear healthy stock from tuberculous parents. [Abstract.]

In arranging a plan for the experiments the Committee had to take account of the circumstances which might prevent the success of any attempt to rear to maturity and free from tuberculosis the progeny of a tuberculous parent. And it may here be said that although the plural word was used in the resolution passed by the Council it was understood by the Committee that what they were desired to demonstrate was the possibility of rearing in a state of health calves of which one parent, viz., the female, was tuberculous. A more prolonged and expensive set of experiments would have been required to prove this possibility with regard to the calves of which both parents were tuberculous, although there is no reason to suppose that the difficulty in breeding and rearing healthy calves from tuberculous cows would be increased in any degree by the fact of the male parents being also diseased.

As it is generally admitted that tuberculosis is a purely contagious disease, resulting from the multiplication of the tubercle bacillus in the bodies of infected animals, what the Committee had really to do was to demonstrate (1) that the bacillus is as a rule not present at the time of birth in the calves of tuberculous cows, and (2) that calves born healthy may be reared in circumstances that prevent infection with tubercle bacilli. It was from the outset clear to the Committee that the experiment might fail to demonstrate either of these things. In the first place it admits of no denial that tuberculous cows sometimes produce tuberculous calves, but it is known that this does not occur once in a hundred times among cows that appear to be healthy. That is to say, the risk of the experiments failing through some of the calves being born tuberculous was very slight, providing the cows selected for the experiment were not suffering from what may be called advanced tuberculosis.

The only real difficulty in the demonstration therefore arose from the risk that the calves might become infected after birth, and the problem was to prevent the access of tubercle bacilli to them. In nature these bacilli come from one source, viz., animals or human beings affected with tuberculosis, and, as regards the bacilli which cause the disease in cattle, the human source may for all practical purposes be left out of account. The arrangements had therefore to aim at making it impossible for tubercle bacilli to reach the calves either directly or indirectly from tuberculous animals, and especially from animals of their own species. The most immediate risk obviously was that the calf might become infected from its mother. To guard against this, each cow at the time of calving was tied up, and as soon as the calf was born it was carried into a building that had not previously been used for cattle, where it was rubbed dry. As soon as possible thereafter it was removed by cart to the calf rearing premises, a mile distant. Further, the man in charge of the calves was kept entirely for this work, and had no contact with other cattle.

As the calf houses here had been to a large extent reconstructed, provided with a new floor, cleansed, disinfected, and whitewashed, it was permissible to assume that there was little or no risk that the calves could become infected by bacilli remaining over from the previous tenancy. The milk on which the calves were fed was obtained from a farm in the neighbourhood, and before use it was raised to a temperature of

not less than 190° Fahr. by immersing the vessels containing it in water which was kept boiling in the copper. Assurance was thus obtained that any bacilli which might have been brought from the cows at the neighbouring farm had been killed.

When milk diet was stopped the calves were kept on two fields which were reserved exclusively for their use, and they were never allowed to come into contact with other animals with the exception of the bull which was put with them to serve the heifers in September, 1912. This bull had passed the tuberculin test before he was brought to the place, and, after arrival, he was again tested, with the same result.

An independent Board of Experts was appointed to conduct post-mortem examinations of the animals as they were slaughtered, consisting of Dr. A. Stanley Griffith, The Field Laboratories, Milton, Cambridge; Mr. James B. Manuel, M.R.C.V.S., 117, Tettenhall Street, Wolverhampton; Mr. W. G. Barnes, M.R.C.V.S., late Superintendent of the Metropolitan Cattle Market, and Mr. James R. Hayhurst, M.R.C.V.S., the present Superintendent of the Cattle Market.

Inasmuch as no evidence of tuberculosis was found in any of the animals after they were slaughtered, these experiments may be held to have demonstrated "that by means of isolation it is possible to rear healthy stock from tuberculous parents."

Although the experiments assumed, and were not intended to prove, the reliability of the tuberculin test when properly carried out, they do add further testimony to its value, for on the assumption that the test is quite untrustworthy there does not appear to be any reasonable explanation of the fact that with one exception (Calf No. XI.) none of the calves reacted, while among 127 apparently healthy cows, 35 (or 28 per cent.) reacted distinctly. The case of calf No. XI. illustrates one of the sources of error in testing animals with tuberculin, viz., an accidental rise of temperature occurring during the period of the test, meaning by "accidental" that the rise was caused by something other than the tuberculin. The facts set forth in this animal's record indicate that it suffered from some temporary illness of which the cause was not determined, and that this illness was responsible for the rise of temperature after the injection of tuberculin on the 18th October, 1912.*

The Committee desire to acknowledge the great assistance given by Lord Rothschild and the late Sir Richard Cooper, Bart., in providing the calves for the demonstration. Their thanks are also due to Sir J. Bowen Bowen-Jones, Bart., the Chairman of the Chemical and Woburn Committee, and to Dr. Voelcker, for their kind co-operation, to Mr. W. H. Hogg, the late Farm Manager, and to Mr. F. C. Atkinson, the present Farm Manager, for their efficient supervision of the animals, and especially to Sir John McFadyean, under whose direction the demonstration has been carried out.

December 9th, 1913.

NORTHBROOK, Chairman.

*[CALF No. XI. Scoured from 18th to 27th April. Castrated on 29th April. Submitted to the subcutaneous tuberculin test on 16th June, 1911 (Table XV.), and did not react.

18th November, 1911, submitted to the subcutaneous, intra-dermic, and ophthalmic tests and did not react (Table XVI.).

18th October, 1912, tested again by subcutaneous, intra-dermic and ophthalmic methods with the result that the temperature rose two degrees Fahr., but there was no reaction to the latter two tests (Table XVIII.). During the three days before the test the temperature on one occasion reached 103.

Although it was not thought probable that the animal was tuberculous it was afterwards isolated, and it was

subsequently found to have a very erratic temperature varying from 103.2 on the 15th November to 106.6 on the 23rd November. On the 24th November it had fallen to 102.2, and from that date till the 29th Nov. it never exceeded 102.4.

29th November, 1912. Tested again by the subcutaneous, intra-dermic, and ophthalmic tests without reaction. The temperatures on that occasion were:—Time of injection 102.4 3rd hour after 102.4 6th 102.9th 102.6 12th 102.7 15th 101.8.

The animal was maintained in isolation until the 24th December, 1912, when it was killed. The post-mortem examination did not reveal any evidence of tuberculous disease.]

The Reports of Boards of Experts as to post-mortem examinations are signed by A. Stanley Griffith, M.D., James B. Manuel, M.R.C.V.S., W. G. Barnes, M.R.C.V.S., and James R. Hayhurst, M.R.C.V.S., D.V.S.M. (Vict.).

The subcutaneous tuberculin test of cows shown in six Tables were carried out by Mr. D. Meadows, M.R.C.V.S. In six Tables by Mr. A. L. Sheather, B.Sc. In one each by Mr. L. Thompson, B.Sc., and Mr. D. A. E. CABOT, M.R.C.V.S.

The tuberculin tests of calves shown in two Tables were carried out by Mr. J. T. Edwards, M.R.C.V.S., and in three by Mr. F. C. Minett, M.R.C.V.S.

[Discussion is deferred until the meeting on February 4th.]

SOUTHERN RHODESIA. REPORT OF THE CHIEF VETERINARY SURGEON FOR THE YEAR 1912. [ABSTRACT].

African Coast Fever. For several years past, our efforts have been directed chiefly to this disease, and it is satisfactory to be able to state that we have succeeded in restricting its spread, and in making good progress towards its eradication. During the year 5 fresh outbreaks occurred, compared with 8 the previous year, and 18 in 1910. The total mortality, which includes animals in infected herds destroyed on showing a rise of temperature, was 505; of these, 409 occurred at one centre, leaving 96 deaths spread over other 9 centres of infection.

In my last report I expressed the opinion that the cattle owner who fenced his farm and dipped his cattle regularly need not fear coast fever; this view has been amply borne out during the year, as evidenced by the reports from various centres where three-day dipping was practised. Apart, however, from coast fever, cattle owners are beginning to realise that they can make no better investment on a farm than a dipping tank. In some cases, not only are the cattle dipped, but every head of domestic stock on the farm, with the result that growth is not retarded, and better condition and health generally are maintained. Another result of regular dipping is the almost entire disappearance of liver disease, scour, etc., in calves. This is especially marked in dairy herds, in which such complaints formerly caused a mortality of up to 90 per cent.

During the early part of the year it was decided to enforce regular dipping in a large area around the infected centres in the Bubi, Bulawayo, Umzingwane and Matabo districts. It was several months before tanks could be erected and arrangements made for all cattle within the defined area. The severe drought also interfered with the operations. At some tanks water was unobtainable; at others cattle were too poor to be immersed once or twice a week, as required. The difficulties are disappearing, and we hope at an early date to have upwards of 30,000 head of cattle regularly dipped in or around the infected centres.

In the Umtali District, one centre of infection exists—Umtali Commonage. During the year two calves

died from coast fever—one in January and the other in March—aged respectively two months and three weeks. In order to locate, if possible, the actual seat of infection, four young animals, from an area on which coast fever has never existed, were placed in the various sheds and paddocks, but without result. The history of this outbreak is interesting, and shows clearly the value of dipping. After several years of freedom from disease, it re-appeared in January, 1910, when a calf died. In the following December another calf succumbed. In both cases the presence of coast fever was confirmed microscopically. Prior to this outbreak, weekly or fortnightly dipping had been regularly practised. When the first case occurred, three-day dipping was resorted to, with the result that, although the cattle were not removed from the infected veld, only four deaths have occurred in two years.

In the Goromonzi (Salisbury) District, in March a calf in a dairy herd on the northern section of the Salisbury Commonage died from coast fever, and in May a two-year-old beast in the same herd contracted the disease and died. Fortunately, weekly dipping had been practised on the Commonage for a considerable period prior to the outbreak. This was changed to three-day dipping as soon as the first case was diagnosed. No further cases have occurred, although the affected herd and those adjoining still remain on their usual pasture.

In the Bulawayo, Umzingwane and Matabo Districts, at the beginning of the year there were sixteen centres of infection. From some of these the cattle had been removed; on the others the three-day system of dipping was carried out. The results have been satisfactory, as cases of disease occurred at three only of these centres.

The disease appeared afresh at four centres, viz., the farms Spitzkop, Inyorka, Alnwick and Collaton. With the exception of Collaton, all were within the fence which surrounded the quarantined area, and were not unexpected because of their proximity to infected veld. At Spitzkop three-day dipping was started immediately the case was discovered in January, since when the herd has remained healthy. At Inyorka the herd was moved in February through a temperature camp to clean veld with a loss of 8 head. The Alnwick outbreak, which occurred in September, was the result of some native cattle straying to the grossly infected veld on Collaton; three animals died within a few days of each other. This herd had been dipped every third day for some time prior to the outbreak, and, needless to say, this process was continued. No further cases occurred.

In February an outbreak was reported on the farm Collaton, outside the fence which encircled the whole of the quarantined areas. The disease was found at several native kraals, and had obviously been in existence for a considerable period. The number of cattle involved was 1,050 head. There was no dipping tank, and no available clean veld for temperature camp purposes. We were compelled, therefore, to keep them on the infected ground, and endeavour to check the further spread of infection by spraying and destroying all animals showing a rise of temperature. We were further handicapped by the fact that all the cattle on the farm had to water at the same pool, and thus several kraals which might otherwise have remained healthy contracted the disease. The results were most unsatisfactory, the total mortality to the 30th June being 352 head. On the 28th June, after various delays, the dipping tank was completed and three-day dipping was started. An immediate and marked improvement occurred, the mortality during the remaining months of the year being as follows:—July, 19 head; August, 20 head; September, 20 head; October, 3 head; November and December, nil—total, 57.

Contagious Pleuro-Pneumonia (Lungsickness). An outbreak occurred in a herd a few miles from Plumtree Station and the southern border. The

animal affected was an aged cow which had been on the farm for over five years; post-mortem examination disclosed undoubted lesions of lungsickness of several weeks' standing. No further cases occurred, and the restrictions were removed after three months. It has not been possible to trace the origin of the infection which caused this outbreak. No case is known to have occurred in Plumtree district for at least twelve years; but in the territories which adjoin us on the west, viz., Bechuanaland Protectorate and the Tati Concession, lungsickness infection has existed for many years past, and within the last three years several outbreaks occurred close to the border, and we have been apprehensive of its re-introduction, especially as cattle are frequently smuggled across the border into the Plumtree district.

Anthrax. Two sporadic outbreaks of anthrax occurred during the year—one amongst pigs on the Ardbennie plots, adjoining Salisbury Commonage; the other amongst cattle on the farm Umganin, about eight miles from Bulawayo. The infected areas were placed in quarantine and all carcasses burned or buried in lime. There is no record of the previous existence of anthrax in Southern Rhodesia, except an outbreak at the old rinderpest inoculation station at Ramaquabane in 1898. It is quite possible, however, that cases have occurred and have not been diagnosed or reported. Its apparent non-existence for so many years may have been the result of the destruction of practically all the cattle in the country by rinderpest in 1896 and the subsequent ravages of coast fever. As a rule anthrax infection exists more or less in patches, and naturally the fewer cattle there are in any given area, the more remote the probability of its manifesting its presence. With the rapid increase in the number of cattle it is quite possible that we shall have occasional outbreaks of this disease in districts hitherto regarded as free from it.

Bovine Plasmoses. Under this heading are included Piroplasmosis or redwater, and Anaplasmosis or gallsickness. Both are enzootic throughout the greater part of Southern Rhodesia. Calves contract the infection of both diseases shortly after birth, and in most cases recover without any apparent symptoms of illness. The immunity conferred by an attack of redwater is of a passive character, and gradually disappears unless the animals are subject to constant re-infection by ticks; in other words, constant tick infestation is necessary to establish the immunity or tolerance conferred by the primary attack. It is evident, therefore, that the destruction of ticks by dipping or other process will result in the disappearance of the immunity. This result has been observed recently at various centres where dipping has been regularly carried out for coast fever purposes. The mortality from redwater not complicated with other affections is not very high. The affected animals respond satisfactorily to treatment, especially to the subcutaneous or intravenous injection of a solution of trypan blue. Unfortunately, however, an attack of redwater is, in the majority of cases, followed at a short interval by one of gallsickness. This disease, exercising its full force on animals whose vitality has been lowered by redwater infection, causes a very heavy mortality, and many of the animals which survive are left in such a debilitated, anæmic condition that complete restoration to health may take one or two seasons. Amongst locally bred stock the rate of mortality from redwater and gallsickness has undoubtedly increased during the last two or three years, more especially amongst calves, the pure or cross progeny of imported breeds. In addition to the contributory causes already indicated, viz., dipping and the greater susceptibility of the finer breeds, there is some reason for stating that the type of gallsickness has increased in

virulence. That this is not entirely because of increased susceptibility would appear from the following observation. During three successive winters young stock from a certain portion of Vryburg district were brought to a farm in Matabeleland. The first season there was practically no mortality; the second season about 10 per cent., and the third about 30 per cent. died from redwater and gallsickness. Amongst cattle imported from the south the rate of mortality has also increased, due chiefly to the extensive practice of dipping as a preventive of coast fever. But apart from this it has been shown experimentally by the Government Veterinary Bacteriologist that gallsickness virus obtained from Pretoria does not render an animal completely immune against natural infection in Rhodesia, the obvious conclusion being that the type of disease which exists here is more virulent than that which exists in the Union.

Anaplasmosis of Sheep. Early in the year the Government Veterinary Bacteriologist discovered the existence of anaplasmosis in sheep, and extended investigation demonstrated its existence in various districts throughout the Territory. Locally the disease is known as "bottle jaw," and was generally regarded as being due to various intestinal parasites. The symptoms observed are those of anæmia and cachexia, and are scarcely distinguishable from those set up by intestinal worms. A common symptom is œdema of the sub-maxillary space, hence the term "bottle jaw." The infection is probably transmitted by ticks; if so, regular dipping would appear to be a suitable preventive measure.

Trypanosomiasis. The trypanosomal diseases transmitted by tsetse-fly to the domestic animals, generally termed "fly struck" or "fly disease," are not of great economic importance from the veterinary point of view, except in so far as it is impossible to farm with stock in the more grossly infested areas. The treatment of affected cattle by the Government Veterinary Bacteriologist was continued with considerable success. In one instance twenty animals were submitted. All of these showed clinical symptoms, and eleven showed trypanosomes in the peripheral blood. Two were retained as control animals. Some received one injection only; others a second treatment after an interval of two days. The trypanosomes disappeared from the peripheral blood soon after treatment, and all the treated animals improved greatly in condition and are still alive. It is not considered desirable to make public at the present stage the nature of the treatment. It was found necessary to suspend the importation of cattle from North-Western Rhodesia because of the existence of disease in the district of Shesheke, and commonly termed "Shesheke sickness of cattle." This disease appears to be a fatal form of Trypanosomiasis which occurs in an area free from tsetse fly, and investigations are now being conducted to determine, if possible, the transmitting agent.

Glanders. It is satisfactory to be able to report that no case of glanders occurred during the year. The practice of testing all horses, mules, and donkeys entering the Territory, which was instituted in 1899 and since consistently carried out, has been of the greatest protection from any serious invasion of the worst and most dangerous of the scourges which affect solipeds. The following animals were tested with mallein on entry:—Horses 848; mules 986; donkeys 2,187. Two horses reacted and were destroyed. Post-mortem examination confirmed the existence of glanders.

Ephemeral Fever—three days' sickness of cattle. Although large numbers of cattle were affected the mortality was practically nil.

Rabies. Outbreaks of rabies occurred in eight districts. The disease is apparently enzootic in the Victoria and adjoining native districts, and the regulations which provide for the chaining up or enclosure of all dogs for a period of not less than six weeks do not appear to be sufficient to eradicate it. Although six weeks is the minimum period prescribed by the regulations, the infected areas or districts are as a rule proclaimed for a period of three months, which is, if considered necessary, extended. In the large native districts which contain enormous numbers of dogs it is a difficult matter to ensure that strict observance of the regulations which is essential to the control of the disease. Although positive evidence is wanting, there is good reason for believing that the disease exists amongst the wild carnivora: if so, its eradication amongst the domestic animals is practically impossible.

The provisions of the Dog Tax Ordinance which is now in force will, by reducing the number of dogs in the country, be of the greatest assistance in reducing the incidence of the disease, and also of tracing the source of infection in fresh outbreaks.

Horse-sickness. The horse-sickness season of 1912 was the lightest on record, not more than a dozen deaths were reported to the Department.

Tuberculosis. Tuberculosis is unknown amongst indigenous cattle, and only one case is recorded amongst cattle imported from the south:—a Cape Peninsula heifer in 1908.

All animals from overseas are tested with tuberculin on arrival. Out of 115 head imported from England and America during the year, nine head reacted to the test and were destroyed. Post-mortem examination in each case disclosed lesions of tuberculosis. Of the nine animals destroyed, five belonged to a consignment of eight bulls imported from England by one of the large ranching companies. These animals were tested with tuberculin in England, but the foot-and-mouth disease regulations prevented their shipment for several months. Unfortunately, the precaution of re-testing them immediately before shipment was not taken.

Rinderpest. For several years rinderpest has existed in the Uganda and East African Protectorates. During the year it appeared at several centres in German East Africa. From information at our disposal it appears that the disease is of a less virulent type, and is not spreading so rapidly as during the former visitation; notwithstanding this, the possibility of its gradually progressing southwards until it reaches this Territory must not be disregarded. Arrangements are being made for a supply of serum, and a conference of the principal veterinary officers of the various states and territories concerned will meet shortly at Bulawayo to consider the best means of preventing its introduction into the areas of their respective administrations, and for controlling it should it be unfortunately introduced.

VETERINARY LABORATORY.

Apart from the routine work undertaken at the laboratory such as the diagnosis of African Coast Fever, rabies, etc., a considerable amount of research work was performed during the year, chiefly in regard to horse-sickness, bovine plasmoses and trypanosomiasis. These and other subjects are fully discussed in the report of the Government Veterinary Bacteriologist, and it is unnecessary to refer at length to them here.

J. M. SINCLAIR, Chief Vety. Surgeon.

R.S.I. Congress, 1914.

The Council of the Royal Sanitary Institute have accepted an invitation from the Mayor and Corporation of Blackpool to hold the next Congress and Exhibition of the Institute in Blackpool, from July 6th to 11th, 1914. The Right Hon. The Earl of Derby, G.C.V.O., P.C., D.L., has consented to act as President.

SOUTH DURHAM AND NORTH YORKSHIRE VETERINARY MEDICAL ASSOCIATION.

[NATIONAL V.M.A.—NORTHERN BRANCH].

A meeting was held in the Imperial Hotel, Darlington, on Friday, December 5th, Mr. J. M. Walker, Hartlepool, President, in the chair. There were also present Messrs. G. R. Dudgeon, Sunderland; E. R. Gibson, Seaham Harbour; W. H. Blackburn, South Hetton; J. Wilson, Yarm; W. N. Dobbing, C. G. Hill, F. H. Sanderson, and J. H. Taylor, Darlington.

Visitor: Mr. R. Barker, M.E.C.V.S., Stockton-on-Tees.

It was proposed by Mr. Gibson, seconded by Mr. Dudgeon, and carried, that the minutes of the previous meeting, as they had appeared in *The Veterinary Record*, be taken as read and confirmed.

Correspondence.—A telegram was received from Mr. Peele, regretting that he was unable to be present at the meeting.

An invitation was received from the Royal Sanitary Institute to attend the Congress of the Institute at Blackpool, commencing on July 6th, 1914. It was agreed to leave the matter over until the meeting in March.

A letter was read from Mr. F. W. Garnett, who made an urgent appeal for funds for the Tenth International Veterinary Congress to be held in 1914. After some discussion it was agreed that the Association subscribe £5 5s.

The SECRETARY remarked that probably all the members would have received a letter from Prof. Sir John McFadyean appealing for financial support for the Congress, and it was to be hoped that all the members would subscribe individually in addition to the sum agreed upon.

CLINICAL CASES.

NAVICULAR DISEASE IN A MARE.

Mr. HILL reported an interesting case of navicular disease in a mare twenty-five years old. He showed a photograph of the mare, and the os pedis and navicular bone from each fore foot.

Mr. HILL stated that he had the mare under treatment twelve years ago when he condemned her as being unfit for the work she was then doing, and was of the opinion that she was suffering from navicular disease in both fore feet. She was given to two blacksmiths, who are brothers, and who work in the town, on the understanding that she was not to be sold, and when she became too lame to work she was to be put down. All kinds of shoes were tried, in addition to pads and leathers, and it was found that she went the best in a shoe with a bar across the frog and leathers. The mare worked for years, doing about six miles every day, occasionally she went a long drive once or twice a week, and although she occasionally came out of the stable a little stiff, she was always workably sound. About three years ago she did not go so well during the summer months, so in the month of October her fore shoes were taken off, and she was given a winter's run out at grass. The mare was taken up in March the following year and was so lame that one of the brothers thought that no further treatment was advisable, and was in favour of her being destroyed. The other brother, however, was anxious to give her another trial, and tried a round shoe a little thicker at the heels than at the toe and leathers, and she gradually became workably sound again. When she was turned out again the following winter her fore shoes were allowed to remain on, and she came up alright in the spring, and worked all the summer. Last summer she was taken a driving tour to Whitby and Scarborough, doing on an average twenty-five miles daily, and once she did thirty-two, and beyond being a

little "groggy" on first coming out of the stable, she did all that was required of her.

About two months ago, when being driven near home, she fell suddenly lame on the off fore leg. Her owners were loth to destroy her, and although she became much sounder with rest, if taken out for exercise she became very lame, and as no permanent recovery seemed possible she was destroyed. On making a post-mortem, well marked navicular disease was present in both fore feet, and there was fracture of the navicular bone of the off fore foot. It certainly seemed remarkable that an animal could work so long as this one had done with the navicular bones in the condition they were, and show no contraction of the heels, or anything abnormal in the shape of the feet.

ANTERIOR POLIO MYELITIS IN A DOG.

Mr. HILL said that he had recently a case of this disease in a dachshund dog, which was most interesting. The dog had been quite healthy, and was seen one day "routing" with its nose amongst some rubbish. The next day it appeared to have partial paralysis of its hind quarters; it dragged its toes and could not sit up, or get up stairs. It was certainly not a case of "paraplegia" as one met with it in our patients. The sensory nerves were alright, but not so the motor nerves.

The owner of the dog, who was a medical man, diagnosed the case as one analogous to "spotted fever" in children. It was due to germ infection, the germs gaining access to the system up the nose and affecting the motor cells of the anterior horns of the spinal cord. In children the disease was usually fatal, but in the case recorded the dog had gradually recovered, although the long muscles of the hams were still atrophied but were gradually improving.

"JOHNE'S DISEASE" IN A JERSEY COW.

Mr. HILL stated that he had recently had a Jersey cow suffering from this disease. The owner had had the cow five years, and for the last few months she had gradually been wasting in condition. Diarrhoea was present occasionally, and her appetite was not good, which was unusual in this disease, for as a rule the appetite remained good, in spite of the diarrhoea and wasting. He tested her with tuberculin, but got no reaction, and as she gradually got worse she was destroyed, and the presence of Johne's disease was verified by post-mortem, and confirmed by Prof. M'Fadyean, who very kindly examined and reported on the condition.

Mr. WALKER said that he had come across a few cases of Johne's disease, and what struck him most about these cases was that the dung had a peculiar and distinctive smell about it, and appeared to have bubbles of gas in it.

INFECTIVE FOUL IN CATTLE.

Mr. WILSON asked if any of the members had any experience of infective foul in the feet of cattle? He had recently had eight cases on one farm which made the owner of the cattle afraid he might have foot-and-mouth disease to deal with. There were no mouth symptoms, however, and he had treated the cases by soaking the feet in antiseptic baths and tar bandages, and they were all recovering.

"PROPRIETARY" MEDICINES.

Mr. HILL called attention to the notice which had recently appeared in the journals with reference to the analyses of "quack" medicines and thought it would be a good thing if they, as an Association, sent up samples of such remedies as were used in the district. Some discussion took place respecting this, and it was eventually proposed by Mr. Hill, seconded by Mr. Blackburn, and carried, that the Secretary ascertain what medicines had been sent up for examination with

the object of supplying any which were used in the neighbourhood.

New Members. Mr. A. G. K. BRITTAIN, M.R.C.V.S., Guisbro', was nominated, on the proposition of the Secretary, seconded by Mr. Hill.

Mr. R. BARKER, M.R.C.V.S., Stockton-on-Tees, on the proposition of Mr. Walker, seconded by Mr. Wilson.

NORTH RIDING VETERINARY INSPECTORS.

The HON. SEC. stated that in accordance with instructions received at the last meeting of the Association he had called a meeting of the Inspectors on Sept. 18th at Northallerton. Invitations were sent out to twenty-three inspectors, but only six turned up for the meeting. Mr. Awde, of Stockton, and Mr. Smith, of Stokesley, wrote regretting that they could not be present on account of previous engagements, and Mr. Riley wired that he was prevented from attending. The meeting was therefore most unsatisfactory as regards the attendance, and it certainly looked as if the majority took not the slightest interest in the matter. The meeting formed itself into a "round table conference," and the fees payable to veterinary inspectors were discussed, with the result that it was agreed to leave the amount of fees payable as they were for the present, but Mr. Pratt, the Chief Veterinary Inspector, promised to mention the matter to some of the members of the Executive Committee, and see if any advance would be granted. He pointed out, however, that he could not hold out much hope, as the Order was most unpopular with his Committee. He also thought that with one or two exceptions the fees payable were quite as good as those in the neighbouring county of Durham.

THE LATE MR. WILLIAM HUNTING.

General regret was expressed by the members on the death of Mr. Hunting, and on the proposition of Mr. F. H. Sanderson it was agreed that the Secretary write a letter of condolence and sympathy to Mr. F. and Miss Hunting.

PRESIDENTIAL ADDRESS.

Mr. J. M. WALKER, F.R.C.V.S., Hartlepool.

Gentlemen,—I beg to thank you for the honour you have done me in electing me as your President for the ensuing year. Your decision came as a great surprise to me, and I have grave doubts as to my ability to fill the position as creditably as its importance demands. Any shortcomings on my part I hope you will pardon, and I trust that with the assistance of the Secretary, and your kindly co-operation, I may be enabled to carry out my presidential duties with credit to our Association.

To make a Presidential address is by no means, to me, an easy task. There have been so many addresses lately that it is a difficult matter to introduce a new subject. In the hope that I shall not weary you with my remarks, I propose to just touch upon a few current topics which at the present time and in the future will engage the attention of the veterinary profession.

The Tuberculosis Order, 1913, has now been in operation for some months and has been productive of much good to the profession generally. To my mind the most important result is the fact that it has brought together members of our profession to discuss the working of the Order and the fees relating thereto. In consequence of this the veterinary societies applied to the various local authorities for a higher scale of fees which has now been generally adopted. This in itself shows the advantages to be gained by united action, and emphasises the necessity of the formation of strong local veterinary societies, all acting in co-operation, and conjunction with, the National Society. Every local Society should, therefore, endeavour to increase its membership. What

has been done by united action with regard to the raising of fees by local authorities in particular, shows what might be done to raise fees of practitioners in general, if all were members of a local Society.

The new Veterinary Bill is a measure which has been before the House for some years, and I hope will soon become law. The Royal College is without funds, and therefore unable to give that assistance and protection to the profession which it requires. Besides the annual fee of a guinea I should like to see payment of members of Council and compulsory membership of a local Society. By paying representatives on the Council we would probably secure the best practical and business men, which would be to the best interests of the profession generally.

The Anæsthetics Bill. If this becomes law it will change our procedure in many operations, particularly in country practice, for which higher fees will have to be charged. It may do good as far as putting down quacks is concerned, but they themselves may in time learn to use anæsthetics. It would be better, however, if unqualified persons—no matter what they call themselves—should be prohibited from operating. The option of using an anæsthetic should, in my opinion, be left to the discretion of the practitioner.

Turning to our local affairs, I think we can congratulate ourselves on the past year's work under the worthy presidency of Mr. W. Awde. The attendance has been good, especially at the demonstration, which I am sure was instructive to the members present. Demonstrations are valuable means of obtaining an insight into new methods, and if we desire to keep ourselves posted up to date, they should be as frequent as possible. Specialists on any subject are easily obtained, and I trust that in the future we will avail ourselves of every necessity which arises to arrange a demonstration. If members themselves will bring specimens, or introduce interesting subjects together with data, useful discussions would, in all probability, produce information for our mutual benefit.

Mr. HILL proposed a hearty vote of thanks to the President for his address. This was seconded by Mr. Gibson, and carried unanimously.

GLANDERS.

Mr. G. R. DUDGEON, M.R.C.V.S.

Mr. President and Gentlemen,—When our Secretary wrote asking me to give some remarks on glanders and the mallein test, my first thoughts were to decline; however, I wrote him saying that Mr. Gibson, Seaham Harbour, had more experience of testing than I had, but I had talked the matter over with him, and we had come to the decision that it was the duty of every member to do whatever little he could for his Association, and that I would introduce the subject, and he would give his experience of the test. I am still of the opinion, and I think you will agree with me before I have finished, that my first thoughts were the best.

My first recollection of glanders goes back to the year 1874, and I will tell you why it is so impressed on my mind. In that year an outbreak took place at Sunderland. My father was staying at Barnard Castle, and I had occasion to wire him saying that another case had occurred. I received the following wire from him:—"Home at six, see Hudson, get grave dug on sands, shoot him to-morrow morning." We often wondered what the post office officials would think was going to happen to poor Hudson. Needless to say my father enjoyed the joke, and often used to tell it against himself. At that time I had a fearful dread of the disease, and got it on my mind that I should die of it; however, the dozens of cases I have seen since that time have bred a certain amount of familiarity but not con-

tempt, and I still adopt every precaution against becoming infected, and I must certainly advise all, while dealing with this dreadful disease, that you cannot be too careful.

It is not my intention to give you a set paper on glanders, as I have neither the time nor the ability. As you are all aware, glanders is a disease of great antiquity, and is due to the bacillus mallei, and in the year 1882, I think, the organism was isolated.

Glanders and farcy are one disease, but with different symptoms. In glanders you generally have an enlarged submaxillary gland, which is adherent to the jaw, this enlargement used to be called a "jug," there is a sticky rather opaque discharge from the nostril, and ulceration of the mucous membrane of the nostril. In farcy you have ulceration of the lymphatics, farcy buds, and these may occur at almost any part of the body, but are generally to be found in the inside of the thigh. You also get a corded condition, due to inflamed lymphatics, before the farcy buds appear. A thick leg may be the first symptom, or a wound may be the starting point.

In the year 1891 two Russian veterinary surgeons, Hellmann and Kalning, obtained "mallein" from cultures of the bacilli of glanders. Experiments were then made by continental veterinary surgeons. The French took the matter up very actively, and in 1892, in *The Journal of Comparative Pathology and Therapeutics*, Hunting and M'Fadyean gave the results of certain tests made by them. Now, it is recognised that mallein is a great aid in diagnosis, and what is more, is reliable.

I notice that our Secretary states in the notice of meeting that I have to deal with this disease from the veterinary inspector's point of view. Well, the Glanders and Farcy Order of 1907 is the Order on which veterinary inspectors have to go, and as most of you will be acquainted with it I need not trouble to read it here. The Mines Regulation Bill also provides that every horse, etc., before going into a mine shall be tested with mallein. I know that it was pointed out to the authorities that it would be advisable to have all the animals already in the mines tested first—to my mind a very wise and sensible suggestion.

I will now relate a few cases that have occurred in my district. The first case was in July, 1912, in a new pony which came to a certain colliery. This pony was tested by the veterinary surgeon in charge, and he got a typical reaction. The temperature went up to 105°, and the swelling was 6 inches by 3½ inches. I retested for the local authority, and the temperature again went up to 105°, and the swelling was 5 inches by 5 inches. The pony was slaughtered, and at the post-mortem four veterinary surgeons were present, one representing the owners of the colliery, one representing the owner of the pony, and myself and another representing the local authority. Glanders lesions were found in the lungs, and all agreed that it was a case of glanders.

The next cases occurred in the practice of Mr. Gibson, one of our members. A client of his bought some ponies at a mart as a speculation. He resold them, and Mr. Gibson had to apply the test. When I first saw the first pony tested the local swelling was 6 inches by 4 inches. The pony was destroyed, and lesions were found in the lungs. Three days afterwards Mr. Gibson reported two more ponies as having reacted. I retested these, one's temperature went up to 106°, and the other 105°. Both were destroyed, and lesions found in the lungs. It is interesting to note that the one which had the highest temperature had the least local reaction, and the lesions in the lungs were not so pronounced. I think six ponies were bought, and it is rather remarkable that three of the six should have reacted. I tested the other ponies and got no reaction.

On March 4th this year Mr. Gibson reported a pony affected with farcy. It had been in the pit for eight

years. Farcy buds were present on both hind legs. This pony when tested showed a swelling of 6 inches by 5 inches. It was destroyed on clinical evidence, and lesions were found in the lungs. Sixty-five ponies which had been in contact were tested, but none reacted.

On March 27th last a pony was destroyed on clinical evidence as being affected with glanders and farcy. The hind legs were covered with ulcers, there was discharge from the nostrils, the submaxillary gland was enlarged, and there were ulcers on the mucous membrane of the nostrils. Twenty-one ponies which had been in contact were tested, and three reacted to the test. The first one had a temperature of 102°6', and a swelling 6 inches by 6 inches. The second one had a temperature of 105°2', and a swelling 5 inches by 5 inches. The third one had a temperature of 104°, and a swelling not very marked. On making post-mortems, the lesions in the first two ponies were not very definite, but the liver was very suspicious, and no doubt the disease was in the initial stage. In the third pony lesions were found in the lungs.

On April 25th last I tested two ponies, and the temperatures went up to 102°8' and 103°4'. In the first case there was well marked swelling of over 5 inches by 5 inches, in the other there was only slight swelling, but great soreness. Both cases on post-mortem showed lesions in the lungs.

In June I tested twelve ponies, and got two reactors, and on post-mortem both showed lesions in the lungs. The peculiarity in this case was that I was both "judge and jury," for I had to test for the company, give notice to the local authority, and then test and make post-mortems for the local authority.

I am afraid that I have now wearied you long enough with all the details I have given you. I may say that this year Mr. Gibson and Mr. Blackburn have tested 1317 pit ponies, which I think is a record for the north, and I acted on behalf of the local authority in the matter. Our experience showed us that cases of glanders in a latent condition are present in mines, and shows the necessity that all animals should be tested before going down the mine.

I notice that Russian veterinary surgeons are now saying that the mallein test is not reliable. This may appear rather strange at first sight, in face of the fact that mallein was first produced by two Russian veterinarians, but when we know that glanders exists in Russian ponies which are used here in pits, I think that the statement made about the non-reliability of mallein is obvious. (Applause.)

Mr. GIBSON said that after the very excellent account which Mr. Dudgeon had given, he felt he had very little to say. Prior to the recent outbreak of glanders he had not seen a clinical case of the disease since being in practice in London, seventeen years ago. In those days the mallein test was not recognised by the authorities, and when an outbreak occurred in a stud those presenting clinical symptoms were destroyed, others, which reacted without clinical evidence, were isolated as far as possible, and worked as usual. After settling in practice in the North of England he had not seen a case for sixteen years until March last—the case mentioned by Mr. Dudgeon.

At one of the collieries with which he was connected the horsekeeper drew his attention to a pony with a swollen hind leg. On examination two or three small ulcers were found on the course of the lymphatics. The pony was in good condition, and had been in the mine for eight years. His suspicions were aroused that it might be a case of farcy, and the animal was brought out of the pit and tested with mallein, with the result that there was a typical reaction. This pony was re-

ported to the local authority, and destroyed in due course, and glanders lesions were found in the lungs. The ponies which had been in contact with this case were tested by Mr. Dudgeon on behalf of the local authority, but none of them reacted. On April 1st, in the same mine but in a different stable, another pony showed clinical symptoms and was destroyed; this also was an old pony, and had been in the mine eight or nine years. It is remarkable that both these cases had been underground for so long a time without showing any signs of disease. Twenty-four ponies which had been in contact with this animal were tested by Mr. Dudgeon and three of them reacted and were destroyed.

As a result of these cases he received instructions from the head agent of the colliery company to test the whole of the stock in their three collieries. This was a big undertaking, and Mr. Blackburn very kindly assisted him. The testing could only be carried out at the week-ends, when the ponies were off work from Friday night until Monday morning. The total number of animals tested at the various collieries was 1317, the largest number tested at any one time being 154. It was a tedious business, and they were pretty well tired of it before the whole stock were gone through. The result of the testing in the three collieries was as follows: At Seabam colliery, where the two clinical cases were found, 590 were tested, 11 reacted; at Dawdon colliery 287 were tested, 3 reacted; and at Silksworth colliery 440 were tested, and 2 reacted. These cases of course were all reported in the usual way, and retested on behalf of the local authority before being destroyed.

Mr. BLACKBURN stated that he had assisted Mr. Gibson in the testing of the ponies, and the temperature and local reactions had been very interesting. For instance, in the case of two ponies the temperatures of one at the time of inoculation was 100°8', at the 12th hour it was 105°, and there was a typical local re-action. In the case of the other the temperature at the time of inoculation was 101°5'; at the 12th hour it was 100°4', and never had a rise of temperature, but just a slight soreness of the neck at the seat of inoculation. At the 36th hour, however, there was quite a typical swelling which continued to increase in size. It was therefore not safe to decide about a case until 36 hours after inoculation, for a case like that recorded had occurred twice in his experience.

Mr. HILL proposed that the discussion be deferred until the next meeting, this was seconded by Mr. Wilson and carried.

The members subsequently had tea together in the hotel.

JAMES H. TAYLOR, Hon. Sec.

Burning for Lampas—Conviction.

At Enfield Police Court on Monday, Percy Manning, farrier, of Roebuck Terrace, Enfield Highway, was summoned for burning a horse's mouth with a hot iron. The owner of the animal, David Hale, Hoe Lane, Enfield, a farmer, was summoned for causing it to be so cruelly ill-treated.

Mr. Polhill, prosecuting, stated that on November 16th Hale discovered that his horse was off its food. He sent for Mr. Davis, a veterinary surgeon, but he was unable to attend till next day, when he discovered that the animal had been burnt very severely upon the roof of its mouth. The matter was reported to the Society. The object of the prosecution was to prevent persons like Manning from inflicting unnecessary suffering, and to make persons like Hale understand that it was their duty to obtain the services of properly qualified veterinary surgeons instead of putting cases in the hands of amateurs such as Manning.

Inspector Dodd stated that on November 28th he visited Hale, who admitted to him that he had had the horse burnt for lampas, adding "Yes, it's getting better now. I spoke to Manning as Mr. Davis, a veterinary surgeon, did not come, and he told me that he had the tools at home and that he would cure it as he had cured thousands before." Witness examined the horse, which was about 20 years old and in good bodily condition. Inside the mouth was a large wound, three inches in diameter. Afterwards witness saw Manning, who said "Yes, I did fire it. I fired thousands when I was in the Army, and I hope to fire thousands more. You can do what you like, and you can bring the best veterinary surgeon in front of me. I have got more in my noddle than they have."

Mr. Davis, veterinary surgeon, of Enfield, stated that when he saw the horse he was horrified to find its mouth had been burnt, it had a large raw patch on the roof.

Defendants disagreed with witness's statement of the size of the wound, and Manning produced some instrument.

Mr. Davis said the instrument must have been a larger one than that produced. Witness produced the upper part of a horse's mouth, and gave an illustration of how the operation was performed, and how the effect of burning bars off a horse's mouth was to interfere with the functions of the palate. He had never burnt a horse for lampas, nor seen one done. There was no disease in lampas at all, and it could be cured by using some lotion for the mouth and giving it medicine. Lampas might arise from indigestion, but that was problematical.

The Chairman of the Bench (Mr. H. Trenchard). The Bench would like to know if it was not formerly a custom among farriers and veterinary surgeons to burn horses for this complaint?

Witness: I have never known it done by veterinary surgeons—only among farriers.

Another Magistrate: In the Army didn't old farriers used to do it?—I don't think so.

The defendant Hale stated that Manning told him he could cure the horse in a minute, and that he would like to have as many threepenny pieces as horses he had so treated in the Army. He burnt two bars of the roof three times, and then rubbed salt in. Afterwards the horse started feeding and it "had not left off feeding yet."

Manning said he was in the Army for 21 years and what he did was a custom.

George Manning, a son, stated that the horse never flinched while the operation was in progress.

The Chairman said they had decided it was cruelty to burn a horse's mouth. They recognised Manning had been in the habit of doing it for years without realising the cruelty he was causing. Hale had been led away by Manning. That was the first case of the sort the Bench had had, and they wished it to be known throughout the country that firing for lampas must cease. Defendants would each be fined 10/- and veterinary surgeon's fee.

Motors and Veterinary Students.

Speaking as the guest of the African Club at Maritzburg, Dr. Theiler commented on the great difficulty experienced in getting men for research work. He had been asked to engage men across the water, but he found the motor car was knocking out veterinary science. Where there would be 100 students at the Veterinary College in London, there were now 20. He had found some young South Africans in England, however, who were interested in veterinary science, and it was to these he would look for assistance in research work in South Africa. (Cheers).—*The Friend* (Bloemfontein).

Alleged Cruelty on the Railway: Appeal Allowed.

In the High Court of Justice, Divisional Court, before Mr. Justice Darling, Mr. Justice Rowlatt, and Mr. Justice Atkin, on Saturday, Nov. 22nd. North Staffordshire Railway Company v. Waters—a case stated by the Quarter Sessions of Staffordshire.

Mr. Disturnal, K.C., and Mr. Burne appeared for the appellants; and Mr. Stuart Bevan appeared for the respondent.

On April 9th the Staffordshire Quarter Sessions heard an appeal against a conviction dated March 13th, whereby the appellants were convicted for that on February 5th at the parish of Stafford they did carry by rail certain animals, to wit, 11 cows, which owing to infirmity and fatigue could not be carried without unnecessary suffering during the transit by railway between Uttoxeter and Stafford, contrary to the Animals (Transit and General) Order of 1912 and contrary to the form of the Statute made and provided.

The Quarter Sessions dismissed this appeal, subject to the case being stated.

For the appellants it was contended (1) that Clause 17 of the Order created no offence, but merely applied the penalties provided in the Diseases of Animals Act, 1894, to the offences mentioned in Clauses 1 to 16 of the Order. (2) That the appellants were not the persons in charge of the animals within the meaning of Clause 12, and that that clause did not impose any duty or liability on the railway company, but only on the owner or some one on his behalf tendering the animals for carriage. (3) That guilty knowledge was essential to the offence, and there was no evidence of guilty knowledge on the part of the appellants.

The Quarter Sessions Court held that after the cows were delivered to the appellants for transit, the owners and drover ceased to be, and the appellants became the persons in charge within clause 12, and that the appellants had committed an offence against the Diseases of Animals Act, 1894, as provided by clause 17 of the Order. They further held that though when there was no apparent unfitness in animals offered for transit, the railway company was under no obligation to ascertain whether they were in fact fit, yet when, as in this case, animals tendered for transit were manifestly in bad condition and the company's servants took no steps to see if they could be carried without unnecessary suffering, and unnecessary suffering was in fact caused, the company could be convicted without further proof of knowledge.

The Order in question was an Order of the Board of Agriculture and Fisheries, dated April 22, 1912. Clause 12 was as follows:—"No animal shall be permitted by the owner thereof, or his agent, or any person in charge thereof, to be carried by railway if owing to infirmity, illness, injury, fatigue, or any other cause, it cannot be carried without unnecessary suffering during the intended transit by railway." Clause 17 provided that if anything was done in contravention of any of the provisions of the Order the railway company carrying the animals, and also in certain cases the consignor, each in respect of his own acts or omissions, should be deemed guilty of an offence under the Act of 1894.

Mr. Disturnal, for the appellants, now submitted that the Act and the Order drew a clear distinction between the owner of an animal, or his agent, and the railway company. Railway servants could not be expected to know the condition of animals, though a drover might. Clause 11 said that no cow should be permitted to travel by rail if the calving of the cow during transit was reasonably probable; but how could a railway porter possibly know that? The obligation was evidently intended to be laid on the owner. Mr. Disturnal

referred to other clauses of the Order as bearing out his contention. The Order did create offences by the railway company, but they were quite distinct. A carrier was bound by statute to carry goods offered to him, and technical knowledge could not be assumed against him. He referred to sections 23 and 57 of the Act of 1894.

Mr. Bevan, for the respondent, submitted that the appellants were persons in charge, and that there was a clear offence under clause 17. He referred to section 52 of the Act.

JUDGMENT.

Mr. Justice Darling, after stating the facts, said that to find whether an offence had been committed against the Act it was necessary to look at the Order of the Board of Agriculture. There was no order which definitely said that a railway company must not carry an animal when carriage would cause unnecessary suffering. The justices here convicted for carrying, oblivious of the fact that no clause of the Order prohibited carrying. Clause 12 said that no animal should be permitted to be carried, and to carry was not the same thing as to permit to be carried. It was possible to use language so that carrying was permitting oneself to carry, but it was not to be expected that the Board of Agriculture would use language as if it were a German metaphysician. In his opinion the Order in saying "permit to be carried" did not mean the person actually carrying, nor was the company the person in charge within the Order. The justices had tried to extend the Order in a way which could not be supported; the Board of Agriculture no doubt might have made the company liable, but they had not done so. As to clause 17, he would say nothing about it, as he really did not understand it.

Mr. Justice Rowlatt and Mr. Justice Atkin concurred. Mr. Justice Rowlatt pointing out that clause 17 only forbade carrying when it was in contravention of the Order, so they were thrown back on clause 12 to see if there was any contravention.

The appeal was therefore allowed.—*The Times*.

Cruelty Charge at Hull: Magisterial Comments

Harry Hutchinson, carting agent, of Goodwin Street, Hull, was summoned at Hull Police Court on Tuesday last, for causing a horse to work when in an unfit condition. A rully driver, George Smith, of Rifle Terrace, Walker Street, was summoned for working the horse.

Mr. J. H. Payne prosecuted, and Mr. Williamson defended.

P.C. Tuthill spoke to seeing Smith in charge of the horse in Humber Street. Blood was running down its leg from a wound which was four inches by two inches. Mr. Hutchinson explained that the wound was caused a fortnight previously through the horse getting its foot into the halter and falling in the stable.

Mr. D. R. Sowerby, veterinary surgeon, said he thought the horse was not fit to work. There was a large open wound.

The defendant Hutchinson gave evidence as to the accident to the horse while in the stable. Witness had the animal attended to until he received instructions that he could take it out again. When the horse was taken out the wound was healed.

Mr. E. T. Goodall, veterinary surgeon, Hessle, said he had examined defendant's horse. The skin was not broken, but full of water like a blister. After treatment the wound healed excellently, and he advised Hutchinson to take the horse out. Under the skin the wound was healed. Witness saw the horse on the day

before Mr. Sowerby saw it, and there was no open wound.

His Worship: There is no mistake about this, that one or the other of the veterinary surgeons has committed perjury.

Mr. Arthur Weighton, another veterinary surgeon, also spoke to examining the horse on the day after the previous witness made the examination. He thought the horse was in a fit condition to work, as their would be no pain. He could not see any open wound. The wound which had been there had healed perfectly under a scab.

Mr. Williamson afterwards intimated that he could have called more witnesses, and His Worship said he could do so, as someone was committing perjury.

Before the case was resumed in the afternoon, the Stipendiary Magistrate, together with the parties interested, went outside the Law Courts to examine the animal.

The lad Smith was placed in the witness box. He said he was an office boy in the other defendant's employ. He had never taken the horse out previously. On the morning in question he took the rully out, and the load and the cart would weigh 1 ton 13 cwt. He noticed the wound on the horse's shoulder was a bit white. When he had been in Humber Street about five minutes the officer came up, and witness, in answer to the constable, said he did not know what was the matter with the horse. There was nothing wrong with it. The constable pointed to the place on the horse's shoulder. It was quite dry. The horse was stiff through having stood on the Riverside Quay half-an-hour.

Mr. Payne: Do you swear that there was no blood on the wound?—Yes.

Mr. Payne: The three officers swear there was.

Sergeant Dent said that on November 6th he was in Humber Street with Sergeant Hopkins, when the constable, Tuthill, drew his attention to the horse. He examined the animal, and found that the wound was wet with blood.

Answering Mr. Williamson, witness said the wound could have dried up very quickly, but there would still be a wound. It might have been quite dry when taken out in the morning.

Sergeant Hopkins said he also examined the horse, and saw the open wound. There was blood on it. It would have been impossible for the wound to have healed in less than a week. It was not bleeding.

His Worship, in his decision, said the case presented considerable difficulty. The veterinary surgeons were inconsistent with each other, and the evidence of Mr. Goodall and Mr. Weighton and of Mr. Sowerby was contradictory. That question, however, most serious as it was, was not the first question he had to decide. The question arising was whether there was a wound or not. He was of opinion, on the weight of evidence, that there was a wound, and that Mr. Sowerby was right. As to the contradictory evidence, that was a matter for the police to consider.

His Worship added that he had never known Mr. Sowerby to be the least bit inclined to put a case unfairly. On the other hand, he had often been rather too kindly disposed to defendants. Therefore, when he said there was a wound it carried considerable weight. The case against the boy would be dismissed. The question with regard to Hutchinson was, what was the state of his mind on the morning of November 6th, whether there was a guilty mind. His Worship believed there was, and decided to convict.

A fine of £2 6s. 6d., including costs, was inflicted. An appeal is contemplated.—*Eastern Morning News*.

Royal College of Veterinary Surgeons.

EXAMINATIONS IN SCOTLAND.

At a meeting of the Board of Examiners held in Glasgow and Edinburgh on December 8th for the Written, and on Dec. 10th, 11th, and 12th for the Oral and Practical Examinations, the following gentlemen passed their Final Examination:—

GLASGOW COLLEGE.

Mr. J. McI. Galloway | Mr. H. McD. Paul
J. McL. Dawson

EDINBURGH COLLEGE.

Mr. A. W. Carter | Mr. J. B. Russell
E. Sewell

The following passed the Third Examination:—

GLASGOW COLLEGE.

Mr. D. Pollock.

EDINBURGH COLLEGE.

Mr. J. E. Syme | Mr. R. J. Forrest
W. J. Bambridge * | L. Littler

The following passed the Second Examination:—

GLASGOW COLLEGE.

Mr. H. J. Hughes *

EDINBURGH COLLEGE.

Mr. R. L. Creery | Mr. T. M. Martin
J. McAllan | T. A. Shaw

The following passed the First Examination:—

GLASGOW COLLEGE.

Mr. C. W. Corson.

Marked thus * passed with Second Class Honours.

REVIEW.

PRACTICAL BACTERIOLOGY, MICROBIOLOGY AND SERUM THERAPY (Medical and Veterinary), a text book for laboratory use, by Dr. A. BESSON, formerly Director of Bacteriological Laboratories of the Military Hospitals of France, translated and adapted from the fifth French edition by H. J. HUTCHENS, D.S.O., Heath Professor of Comparative Pathology and Bacteriology of the Univ. Durham. Royal 8vo. pp. xxx. + 892 with 416 illustrations, 149 of which are coloured. Cloth, lettered: 36/- net. Longmans, Green and Co., 39 Paternoster Row, London, E.C.

The object of this work is to meet the requirements of the student, and at the same time to act as a work of reference for the more experienced worker. These are objects which are not easy to attain in one book, but the author has succeeded in carrying out his object in a very efficient manner.

The subject matter is considered under seven main heads, viz., General Technique, Pathogenic bacteria, The Parasitic fungi, Pathogenic spirochaetæ, Protozoan parasites, Filtrable viruses, and the Bacteriological examination of water sewage and air.

The chapter devoted to the Theory of the Microscope is extremely useful in view of the tendency on the part of students and of many more advanced bacteriologists to use their microscope simply as a magnifying glass. The book contains a large variety of methods, including many of the more modern ones, and in most cases the author has indicated his preference.

The systematic part deals adequately with some of the less important groups such as the hæmorrhagic septicæmias, the trichophyta and the anærobic gangrene organisms. This makes it more useful as a book of reference than the ordinary students' manual, which usually deals fully with a few types, but dismisses whole groups in a few words.

The chapter devoted to immunity does not profess to give a detailed account of the subject. It is rather too condensed to be of use to the student, and as a whole, lacks clearness. This is especially true of the paragraphs on anaphylaxis, which appear in the section on antitoxins. Exception must be taken to the statement on page 306 that only two other pathogenic organisms present the staining properties characteristic of the tubercle bacillus, namely, the leprosy bacillus and the bacillus of Verruga peruana.

With reference to the serum diagnosis of enteric fever, it is pleasing to note that the author gives prominence to the fact that Grünbaum was the first to utilise the agglutinating properties of the blood of enteric fever patients as a rapid and conclusive method of diagnosis.

In connection with the preparation of tetanus toxin, the author recommends that the culture be incubated at 38° C. for four or five weeks. This is not in accordance with the views held by most bacteriologists. The statement also on page 226, that agglutinins are destroyed by heating at 60° C. in serum does not hold good in every case.

The enormous amount of ground which is covered in a comprehensive manner, the lucid descriptions of technique and results, and the reliable nature of the work as a whole, will render it of the greatest value to veterinarians as a work of reference, and no up-to-date worker can afford to be without it.

J. B. B.

Sale of an Unnerved Horse.

James Carr, jobmaster, of Burgess Hill, sued John Murray, jobmaster, Cross St., Woolwich, for £24 3s. 8d. damages for breach of warranty in respect of the sale of a horse. Defendant claimed to be indemnified by John Ford against the liability in respect of the warranty on the ground that it was made by him on his behalf.

Mr. Joseph appeared for the plaintiff, and Mr. Drake (instructed by Mr. H. E. Thomas) for Murray.

Counsel explained that on July 30th the defendant put up for sale at a repository a horse which was warranted. The conditions of sale provided that a horse unnerved must not be sold with any description which carried a warranty. His client, who wanted a horse for contract work, bought the horse for 14 guineas, but after working a short time it was found to be lame and unnerved, and had to be destroyed.

Several witnesses were called for the plaintiff, and Henry Taylor, F.R.C.V.S., of Hayward's Heath, said he found the horse to be unnerved and only fit to be destroyed.

Mr. Drake submitted that the horse was bought under certain conditions which the plaintiff had not complied with, and therefore had no remedy.

After some argument His Honour intimated that he was against Mr. Drake on the pleas.

Murray said he sent the horse to the repository to be sold for Ford and paid him the purchase money, less commission.

Ford said he did not know the horse was unnerved at the time it was sold. He asked Mr. Murray to sell them because he thought he could make more money than he could. Murray paid him £27 10s. in gold.

His Honour gave judgment for the plaintiff for £17 13s. 8d. with costs payable in 14 days and judg-

ment for defendant against the third party for same amount with costs payable at £1 a month.—*Kentish Independent*.

[This case presented one or two interesting features in the question of warranty. A representative of Aldridge's, who has been with the firm for 15 years, did not recall any similar action, as the unnerving had always been found out within the two days allowed for the trial of horses to ascertain if they did fulfil the warranty.

Counsel for defendant argued that the warranty given, viz., quiet in harness, required that the horse, if he did not comply with the warranty, should be returned before five o'clock on the second day after the sale, failing which he became the property of the purchaser with all errors and faults.

Counsel for plaintiff contended that, as an unnerved horse could not be sold with any description which carried a warranty, there was *no warranty*, and hence no time limit for the return.

The Judge decided that the plaintiff was entitled to succeed.

H. T.]

Cruelty Charge at Llangefni—Dismissed.

At the Llangefni Police Court on Monday, the 15th, Bartholemew Crowley, a cattle dealer, of Cork, was charged by the R.S.P.C.A. with cruelty to ten yearling cattle, by exposing them on the street at Llangefni for five hours.

Inspector Snelling prosecuted for the Society, and Mr. M. E. Nee appeared for the defence.

P.C. Jones said that his attention was drawn to the cattle at 2 p.m. They appeared to suffer from the cold. They had been standing from 10 a.m. He suggested to the owner that he should remove them to a shelter. In reply to Mr. Nee, the witness said the cattle were not kept exactly in the same position, they were in a side street the second time he saw them.

Inspector Snelling said he spoke to the defendant about 2.30 and told him that he should remove the cattle, as they were suffering from the cold. Defendant said he was going shortly after being paid for some other lots he had sold. He brought Mr. Trevor Williams to examine the cattle. They had then been taken to a yard and were eating hay.

Mr. Trevor Williams said he was a member of the Royal College of Veterinary Surgeons. He examined the cattle at 3 o'clock on December 4th. He thought they were suffering from cold.

Mr. Nee: What do you think constituted the cruelty?—Keeping them in the open for five hours without food.

Mr. Nee: But these cattle have never been indoors. Do you suggest that they would be warmer in a field with the gate closed?—Yes, for they could then walk about to keep themselves warm.

But surely there was more shelter in the streets than on the open field?—No, they could shelter beside a bank in a field.

Mr. Nee: But they had here the shelter of the strongest bank in the Kingdom! Do you suggest that the defendant should have bought mackintoshes and umbrellas and held them over the cattle? (Laughter.)

The defendant, Bartholemew Crowley, said that he had been all his life in the cattle trade and had never been interfered with before in this way. The cattle would not look saleable if they suffered to the extent alleged. It was to his interest to keep them in good condition. This lot fetched a good price the following day. They were well fed on pasture and hay during the previous night and up to 10 o'clock.

Inspector Snelling: Was this not the coldest day of the year?—I don't know; I'm not an astronomer.—(Laughter.)

Mr. L. W. Wynn Lloyd, Carnarvon, said he was a member of the R.C.V.S., and an Inspector to the Board of Agriculture and Carnarvonshire C.C. He considered that defendant was not guilty of cruelty. Probably a third of the young cattle in Carnarvonshire were still out. He had practised for some years in Ireland and knew the conditions under which these cattle were reared. He considered them harder than our own.

Inspector Snelling: Do you think they would be as warm on the street as in a field where they walk about to keep themselves warm?—They would probably be warmer when huddled together. It is news to me that an animal walks about in a field to keep himself warm. There is a difference between cruelty and discomfort, and I think you have confused the conditions.

Inspector Snelling: These cattle are surely put in sheds at night in Ireland?—You don't know the Irish sheds, there are degrees of them. In the average case they would only be half in, for it's only half a shed. (Laughter.)

Don't you think that Mr. Williams, having seen the cattle, is able to give a better opinion than you?—He had greater advantages to form one, but not necessarily a better opinion.

The Chairman (Col. Lloyd) announced that the case was dismissed.—*North Wales Observer*.

The Training of Performing Animals.

A conference was held at the offices of the Royal Society for the Prevention of Cruelty to Animals, 105, Jermyn Street, last week, with a view to arriving at a practical solution of the question of cruelty in the training and management of performing animals.

Mr. E. G. Fairholme, honorary secretary of the R.S.P.C.A., presided, and among those present were Mr. Fowler (representing the R.S.P.C.A.), Mr. Charles Gulliver (managing director of the London Theatres of Varieties), Mr. Oscar Barrett (manager of the Empire Theatre, London), the Rev. T. Horne (chaplain of the Showmen's Guild), Mr. James Sanger (circus director), Mr. and Mrs. Fred Ginnett (circus proprietors), Messrs. E. H. and Francis Bostock (proprietors of Bostock's Menageries), Capt. Woodward (owner of performing seals), Professor John Buer (animal trainer), Mr. Wm. Berol (executive, International Artists' Lodge), and Mr. B. Sherek (music-hall agent).

It was unanimously resolved that in future all owners of animal turns should require a licence to be issued by the R.S.P.C.A. as a guarantee to the management and the public that no cruelty is used in the training and management of performing animals.

Foreigners are to furnish certificates through the foreign societies for the prevention of cruelty to animals that no cruelty has been used in the training. Each trainer will be supplied with a book in which full particulars will be stated of all animals carried, also visits of inspectors, paraphernalia used in the training and for performances, treatment by veterinary surgeons, and so forth. Lists of engagements must be provided, and inspection permitted at any time. The managers will give every facility to allow entrance to inspectors, without previous notification, at all hours. Animal trainers convicted of cruelty will be deprived of their licence, have all their engagements cancelled, and be expelled from the artists' organisations. A record will be sent to all the societies for the prevention of cruelty to animals all over the world, making further appearances of the undesirable animal trainer impossible.—*The Times*.

A Successful Experiment.

In September last a six months' old stirk, belonging to Mr. Joseph Dorward, Brandsbank, sustained a compound fracture to one of its hind legs near the joint. A well known veterinary surgeon from Laurencekirk was called and examined the beast, and in due course had the damaged limb placed in stucco. By careful attention the stirk, although slightly weak, is now able to walk, and has the appearance of developing into a sturdy bullock.—*N.B.A.*

"Plain" Cows for the Sausage Trade.

At Clerkenwell Police Court, on Thursday, 18th inst., Herbert Geering, of Burgess Hill, Sussex, was summoned at the instance of the London County Council for permitting to be carried, from Lewes to the Maiden Lane Station of the London and North-Western Railway, a cow with a malignant growth, contrary to Article 12 of the Animals (Transit and General) Order. For the defence it was stated that the cow was purchased like others as "plain" cows, for the London sausage trade, and that the cow was passed by the inspector at the slaughter-house. Mr. Bros imposed a fine of £5, with five guineas costs, subject to the question of revenue which had been raised earlier.—*The Times.*

The Royal Sanitary Institute.

At an Examination for Inspectors of Meat and Other Foods, held in London on Dec. 12th and 13th, 1913, 41 candidates presented themselves. The 19 candidates who were granted certificates included:—

MARCUS STEVENSON, M.R.C.V.S., Holloway, London, N.
E. WHITE WALLIS, Deputy Registrar,
90 Buckingham Palace Rd., London, S.W.

Personal.

Mr. RICHARD ROBERTS, F.R.C.V.S., of Tunbridge Wells, Kent, veterinary inspector to the Board of Agriculture, the borough of Tunbridge Wells, and the Councils of Kent and East Sussex, left net personal estate value £10,127.

Sir WILLIAM PORTAL, Laverstoke House, Hants, was elected President of the Royal Counties Agricultural Society at the annual general meeting held at Basingstoke. Prince Christian, this year's president, in apologising for his absence, said he felt sure that the show next year at Portsmouth would, under Sir William's presidency, prove a success in every respect. It was reported that the annual show would be held on Southsea Common, of which 40 acres had been allotted to the Society, on June 10th, 11th, 12th, and 13th. In compliance with an influential request from Portsmouth a Saturday had this year been included.

GOVERNMENT PUBLICATIONS.—Messrs. Wyman and Sons (Ltd.), official sale agents in England and Wales for Parliamentary papers and Stationery Office publications, have published the following, the prices include postage:—Civil Service Examination Papers for Veterinary Inspector in the Board of Agriculture, Sept., 1913, 6½d.; Epizootic Abortion in Sheep, Report, 2½d.; ditto, Appendix, 6d.; Irish Milk Supply, Appendix to the Final Report, 2s. 2d.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, Dec. 19.

REGULAR FORCES. ARMY VETERINARY CORPS.

Capt. E. C. Webb is seconded for service with the Egyptian Army. Dated Nov. 6

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

J. R. McCall to be Lieut. Dated Nov. 17.

Veterinary Societies—Addresses.

BORDER COUNTIES V.M.S.

Pres: Mr. J. W. Hewson, M.R.C.V.S., Wigton

Hon. Sec. (pro tem.): Mr. F. W. Garnett, M.R.C.V.S.,

Dalegarth, Windermere

Meetings, Second Friday of Feb., June, and October

NORTH MIDLAND VETERINARY ASSOCIATION

Pres: Mr. F. L. Somerset, M.R.C.V.S., Chesterfield

Hon. Sec: Mr. J. S. Lloyd, F.R.C.V.S., Sheffield

GLASGOW V.M.S.

Pres. Principal McCall.

Hon. Sec. Mr. J. Gibson, 16 Overdale Gdns, Langside, Glas

ROYAL VETERINARY COLLEGE V.M.A.

Pres: Prof. E. Brayley Reynolds.

Hon. Sec: Mr. B. Gorton, M.R.C.V.S. Assist. Mr. E. E. Jelbart

ASSOCIATION OF VETERINARY OFFICERS OF HEALTH

Pres: Mr. T. Douglas, M.R.C.V.S., Kilmarnock

Hon. Sec. & Treas. Mr. A. M. Trotter, M.R.C.V.S.,

Moore Street, Abattoir, Glasgow.

NATIONAL ASSOCIATION OF VETERINARY INSPECTORS

Pres: Mr. J. Abson, F.R.C.V.S., Sheffield

Hon. Sec: Mr. Trevor Spencer, M.R.C.V.S., Kettering

MUNSTER VETERINARY INSPECTORS' ASSOCIATION

Pres: Mr. D. M. Barry, M.R.C.V.S., Mallow

Hon. Sec: Mr. T. I. Alexander, M.R.C.V.S., Kinsall

NATIONAL VETERINARY BENEVOLENT & MUTUAL

DEFENCE SOCIETY.

Pres: Mr. W. A. Taylor, F.R.C.V.S., Brick-st, Manchester

Hon. Sec: Mr. G. H. Looker, M.R.C.V.S.,

Grosvenor Street, Oxford-st., Manchester

Treas: Mr. J. B. Wolstenholme, F.R.C.V.S.,

Quay-street, Manchester

VICTORIA VETERINARY BENEVOLENT FUND.

Pres. Mr. R. C. Trigger, J.P., Newcastle, Staffs.

Hon. Sec. & Treas: Mr. W. Shipley, F.R.C.V.S.,

South Town. Great Yarmouth

COLONIAL SOCIETIES (continued next page)

VETERINARY ASSOCIATION OF NEW SOUTH WALES

Pres: Mr. S. T. D. Symons, M.R.C.V.S., Chief Insp. of Stock

V. Pres: Maj. A. P. Gribben, F.V.O., M.R.C.V.S.

Hon. Sec. & Treas: Mr. Max. Henry, M.R.C.V.S., B.V.Sc. (SYD).

56 Bridge Street, Sydney

BRITISH COLUMBIA V.M.A.

Pres: Dr. Gibbons, M.R.C.V.S., Vancouver.

Hon. Pres: Dr. Hamilton, M.R.C.V.S., Victoria.

Sec., Treas., Registrar. Dr. T. Jagger, V.S., Vancouver.

ASSOCIATION MÉDICALE VÉTÉRINAIRE FRANÇAISE "LAVAL"

Sec: Mr. J. P. A. Haude, Montreal

PROVINCE OF QUEBEC V.M.A.

Hon. Sec. Mr. Gustave Boyer, Rigaud, P. 2

VETERINARY ASSOCIATION OF ALBERTA

Hon. Sec. Mr. C. H. H. Sweetapple,

For Saskatchewan, Alta, Can.

NATIONAL VETERINARY ASSOCIATION

Past President: Mr. W. Woods, F.R.C.V.S., Wigan
Sec:
Assist. Sec: Mr. W. L. Harrison, F.R.C.V.S.,
 11 Anchor Terrace, Southwark Bridge, S.E.
Treas: Prof. G. H. Wooldridge, F.R.C.V.S.,
 Ryl. Vet. Coll., Camden Town N.W.

Northern Branch:

Pres. W. A. Taylor, (F) Brick Street, Manchester
Hon. Sec. A. W. Noël Pillers, (F)
 74 Smithdown Lane, Liverpool
LANCASHIRE V.M.A.
Pres: Mr. G. H. Locke, M.R.C.V.S.,
 Grosvenor-street, Manchester
Hon. Sec. Mr. J. W. Brittlebank, M.R.C.V.S.,
 Town Hall, Manchester
Hon. Treas: Mr. E. H. Stent, M.R.C.V.S., Preston-st, Hulme
Meetings, 1st Thursday in April, June, Sept., & Dec.
LIVERPOOL UNIVERSITY V.M.S.
Pres: Mr. J. P. Heyes, F.R.C.V.S., Wigan
Hon. Sec: A. Walker, M.R.C.V.S., Mill Lane, West Derby
Pathological Sec: Mr. D. C. Matheson, F.R.C.V.S.
Meetings, May, July, October, January.

MIDLAND COUNTIES V.M.A.
Pres: Mr. J. Martin, M.R.C.V.S., Wellington, Salop
Hon. Sec: Mr. H. J. Dawes, F.R.C.V.S.,
 Camden House, High-st., West Bromwich
Meetings, Second Tuesday, Wednesday, Thursday, and
 Friday alternately in Feb., May, Aug. and Nov.

NORTH OF ENGLAND V.M.A.
Pres:
Hon. Sec: T. T. Jack, M.R.C.V.S., 3 Elmwood Ter, Sunderland
Meetings, Third Friday, Feb., May, Aug. and Nov.

NORTH WALES V.M.A.
Pres: Mr. Hugh Williams, M.R.C.V.S., Ty Croes
Hon. Sec. Mr. L. W. Wynn Lloyd, M.R.C.V.S., Carnarvon
Meetings, First Tuesday, March and September

SOUTH DURHAM AND NORTH YORKSHIRE V.M.A.
Pres: Mr. J. M. Walker, F.R.C.V.S., Hartlepool
Hon. Sec. & Treas: Mr. J. H. Taylor, F.R.C.V.S.,
 Grange Road, Darlington
Meetings, First Friday, Mar., June, Sept. and Dec.

YORKSHIRE VET. ASSOCIATION
Pres: Mr. J. Abson, F.R.C.V.S., Norfolk Street, Sheffield
Hon. Sec: Mr. J. Clarkson, M.R.C.V.S., Garforth, nr. Leeds
Hon. Treas: Mr. A. McCarmick, M.R.C.V.S.,
 Kirkstall-road, Leeds

Southern Branch:

Pres. Sir Stewart Stockman, 4 Whitehall Place, S.W.
Sec. T. C. Toope, 34 High Street, Dover
CENTRAL V.S.
Pres. Prof. G. H. Wooldridge, R.V. Coll., Camden Town.
Hon. Sec: Mr. H. A. MacCormack, M.R.C.V.S.,
 122 St. George's Avenue, Tufnell Park, N.
Meetings, First Thursday in each month, except August
 and September, 10 Red Lion Square, Holborn, at 7 p.m.

EASTERN COUNTIES V.M.A.
Pres. Mr. F. B. O. Taylor, M.R.C.V.S., Westin Longueville,
Hon. Sec. & Treas: Mr. Sidney Smith, Junr., M.R.C.V.S.,
 37 High Street, Lowestoft
Meetings, Second Tuesday, Feb., July and Sept.

LINCOLNSHIRE AND DISTRICT V.M.S.
Pres. Mr. C. W. Townsend, F.R.C.V.S.,
 Long Stanton, Cambridge
Hon. Sec. & Treas: Mr. Tom Hicks, M.R.C.V.S.,
 Boston Road, Sleaford
Meetings, Second Thursday Feb., June, and October

ROYAL COUNTIES V.M.A.
Pres: Mr. J. C. Coleman, M.R.C.V.S., Swindon
Hon. Sec. & Treas: Mr. G. P. Male, M.R.C.V.S., Reading
Meetings, Last Friday, Jan., April, July and Nov.

SOUTHERN COUNTIES V.S.

Pres: Mr. G. H. Livesey, M.R.C.V.S., Hove, Sussex
Hon. Sec: Mr. A. H. Archer, M.R.C.V.S., Southsea, Portsmouth
Hon. Treas: Mr. E. W. Baker, M.R.C.V.S., Wimborne
Meetings, Last Thursday, Mar., June and Sept.

SOUTH EASTERN V.A.

Pres. Mr. James Crowhurst, F.R.C.V.S., Canterbury
Hon. Sec. & Treas. Mr. Theo. C. Toope, M.R.C.V.S.,
 34 High Street, Dover
Meeting, Third Thursday in January, Tunbridge Wells

WESTERN COUNTIES V.M.A.

Pres: Mr. C. E. Perry, F.R.C.V.S., Staple Hill, Bristol.
Hon. Sec. Mr. W. Ascott, M.R.C.V.S., Bideford
Hon. Treas: Mr. P. G. Bond, M.R.C.V.S., Plymouth
Meetings, Third Thursday, March, July and November

Irish Branch:

Pres. Mr. W. Watson, Municipal Buildings, Dublin
Sec. Mr. P. D. Reavy, Leafield, Bundoran, Co. Donegal

CENTRAL V.A. OF IRELAND.

Pres: Mr. B. P. J. Mahony, M.R.C.V.S., Maryborough
Hon. Sec. Mr. E. C. Winter, F.R.C.V.S., Queen-st., Limerick
Treas: Mr. J. F. Healy, M.R.C.V.S., Midleton

CONNAUGHT V.M.A.

Pres. Mr. D. Hamilton, M.R.C.V.S., Ballina
Hon. Sec. & Treas. Mr. A. J. Moffett, M.R.C.V.S., Galway

VET. MED. ASSN. OF IRELAND.

Pres: Mr. P. J. Howard, M.R.C.V.S., Ennis
Hon. Sec: J. J. O'Connor, M.R.C.V.S., R.V. Coll., Dublin
Hon. Treas: Prof. J. F. Craig, M.A., M.R.C.V.S.,
 R.V. Coll., Dublin

NORTH OF IRELAND V.M.A.

Pres: Mr. J. A. Jordan, M.R.C.V.S., Belfast
Hon. Sec: Mr. J. Ewing Johnston, M.R.C.V.S., Belfast
Hon. Treas:

Scottish Branch:

Pres. Dr. O. Charnock Bradley, } Ryl. (Dick) V et.
Hon. Sec. Prof. A. Gofton, } Coll: Edinburgh

NORTH OF SCOTLAND V.M.S.

Pres: Mr. W. Marshall, M.R.C.V.S., Aberdeen
Hon. Sec. & Treas: Mr. G. Howie, M.R.C.V.S. Alford, Aberdeen
Meetings, Last Saturday in January and August

ROYAL SCOTTISH V.S.

Pres: Mr. Reid, M.R.C.V.S., Auchtermuchty.

SCOTTISH METROPOLITAN V.M.S.

Pres: Mr. J. Riddoch, M.R.C.V.S., Edinburgh
Hon. Sec. & Treas: Mr. Jas. Henderson, M.R.C.V.S.,
 Public Health Dept., City Chambers, Edinburgh

WEST OF SCOTLAND V.M.A.

Pres: Prof. John R. McCall, M.R.C.V.S., Vety. Coll. Glasgow
Hon. Sec: Mr. J. F. Macintyre, M.R.C.V.S.,
 19 Bank Street, Hillhead, Glasgow
Hon. Treas: Mr. Geo. W. Weir, M.R.C.V.S.,
 88 Crookston Street, Glasgow
Meetings, Second Wednesday, May, Oct. and January.

COLONIAL SOCIETIES: (see preceding page)**CAPE OF GOOD HOPE V.M.S.**

Pres. Mr. J. D. Borthwick, M.R.C.V.S., Cape Town
Hon. Sec. & Treas. Mr. R. W. Paine, F.R.C.V.S.

CENTRAL CANADA V.A.

Hon. Sec: Mr. A. E. James, Ottawa

VET. ASSN. OF MANITOBA.

Pres: Dr. W. R. Taylor, Portage la Prairie
Hon. Sec. & Treas: Mr. Wm. Hilton, Winnipeg

NATAL VETERINARY MEDICAL ASSOCIATION.

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THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

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SCHEDULED DISEASE IN 1913.

This week we print the summary of returns of scheduled disease for 1913. On the whole it shows very good progress.

Swine fever, as usual, is the most unsatisfactory feature. It has fallen this year to 2573 outbreaks as against 2920 in 1912, but this is probably merely one of the inexplicable fluctuations which have long been recognised in connection with this disease. We must either acquire new knowledge, or impose much more drastic regulations than heretofore, before any great progress is made with swine fever. New discoveries may enable us to prevent or cure the disease, and so supersede the stamping-out method. Otherwise, unless we choose to retain the disease indefinitely, we shall sooner or later be forced to accept that old saying of Sir George Brown—"Nothing short of cattle plague regulations will stamp out swine fever."

Anthrax continues to steadily decline, but the returns may be deceptive. So long as a local inspector is empowered to make a final negative diagnosis, but is obliged to submit a positive one to the Board for confirmation, there is a danger that some will report doubtful cases as negative. We indicated this unsatisfactory feature in the present Anthrax Order when it was issued, and we see no reason to change our view of it.

Only two outbreaks of Foot-and-mouth disease, both very recent ones, have occurred—a great contrast to last year. The disease is still in Europe, and that we should have had so little speaks well for our regulations.

Glanders is still decreasing, but for two years past its decline has been much less rapid than in the earlier years of the present Glanders Order. There were 533 outbreaks in 1909, 346 in 1910, 209 in 1911, 173 in 1912, and 162 in 1913. The present slow progress is rather puzzling—but, slow though it is, it is nevertheless sure.

Parasitic mange is declining, but is still one of the most prevalent of scheduled diseases. The figures show that legislation was very necessary, and speak well for the present regulations. Sheep-scab, too, continues to show a substantial annual decline; and its present regulations will suffice to eradicate it in time.

Less than a year's work has been done under the Tuberculosis Order, and we reserve this for future reference. Finally, we recall quite a number of animal diseases which are still scheduled, but which never figure in summarised returns. They have disappeared from the country, some many years ago, and some of the diseases specified above will soon follow them—thanks to the work of our profession.

AN INTERESTING CASE OF PSAMMOMA.

Subject.—Aged bay mare. The previous history of the case was, that the mare had been treated two years prior to this admission to hospital, for large abscesses on the off shoulder, probably the result of strangles; also, a little time later, for a severe attack of impaction of the stomach, during which attack delirium lasted for a considerable longer time than is usual.

After the mare was returned to duty she had occasional fits of sulkiness, occurring three or four times yearly, and lasting from two to three days to a fortnight, during which periods she would be entirely off her feed and drink very little water. It sometimes happened that these sulky fits would occur at exercise, and the mare would stop and could not be moved for half-an-hour or more, when she would walk quietly back to the stables.

During this incipient state of the disease, the symptoms were indefinite and beyond a tendency to become hidebound and unthrifty, regaining condition at intervals, nothing could be observed. The mare, in these early stages, was usually very quiet and never attempted to savage anyone, but occasionally attempted to do so latterly, in the advanced stages of the disease.

Temperature remained normal, pulse slow, and when placed in a loose box she used sometimes to stand with her head near a corner, but not for any length of time. After a few months the sulky fits became more frequent, and longer in duration. The mare would stand for hours in one position, the characteristic attitude being with her head near the ground, in or near the corner, all four legs drawn close together under the body, and frequently raising one hind leg off the ground and swinging it backwards and forwards. This would continue for hours and sometimes days at a time. Rigors were frequently noticed.

At other times the mare would walk around the box, generally to the off side.

Another peculiarity was that she would stand quite still with a straw in her mouth, and turn her head and neck in an upward and backward direction towards the near side. This symptom also would be continuous for days at a time.

The pupils remained normal, showing no undue irregularity in size. Nothing else could be observed except the rapid emaciation and hide-bound appearance which now set in. At this stage the patient would eat and drink practically nothing.

Psammoma was now diagnosed, and the mare destroyed by chloroform. Destruction was just-

fied by the post-mortem, which revealed a large psammoma, about the size of a large goose's egg, in the left ventricle of the brain.

Diagnosis was confirmed by microscopical examination.

There was also a small tumour in the right ventricle, the size of a walnut, which unfortunately is not shown in the photograph.

Inasmuch as the symptoms of brain trouble began to make themselves manifest after impaction of the stomach had been diagnosed, I am inclined to think that the symptoms of impaction may possibly have been confused with those of commencing tumour formation.

B. A. JARVIS, Capt. A.V.C.

Khartoum. Dec. 20th.

ACUTE ENDOCARDITIS IN A HORSE.

Recorded by W. H. WILKINSON and J. F. CRAIG.

The subject of this affection was an aged chestnut heavy cart gelding, belonging to a client of Mr. Wilkinson.

History.—Up to the appearance of this disease the gelding had enjoyed a clean bill of health, and had proved a good useful worker. On account of the Dublin strike, the services of the animal were not required, and it was sent out to grass. Early in November it was taken in, preparatory to commencing work again. In a day or two after its return to the stable it began to show serious symptoms, and Mr. Wilkinson attended the patient.

fibrinous deposit about the size of a hazel nut, the right cusp (2) presented one about the size of a walnut, which was attached to a similar deposit on the wall of the right ventricle, the posterior cusp was diffusely thickened. The bicuspid valve was also thickened throughout and very dark in colour. There was on it a slight layer of fibrin covering the cusps towards their free border. The segments of the aortic valve (4) were affected in a similar way: slight fibrinous nodules had formed on the inner surface of two of the cusps, and at the bases of all the segments. The pulmonary semilunar valve was normal. In the lesions small Gram staining diplococci were found in pure culture.

The photograph was taken by Mr. G. E. Haines, R.V.C., Ireland.

Date, November.	6th.	7th.	8th.	9th.	10th.	11th.	12th.	13th.	14th.
Pulse.	—	—	74	72	72	86	84	86-92	died 7 a.m.
Temperature F.	105.2	103.2	103.8	103.2	103.2	102.6	103.8	103.6	

Symptoms.—The condition of the gelding was good, and it fed well. It was, however, very dull, not inclined to move, and unable to work. Oedematous swellings appeared on the limbs. There was no jugular pulse. The pulse was small and frequent, but not irregular. The temperature was raised, and the rise of temperature continued throughout the attack. The temperature and pulse are noted in the accompanying chart.

The cardiac impulse was very marked on the left side, and was evident to a very casual inspection. The heart sounds were exaggerated, and could be heard very distinctly over the upper portion of the chest wall.

The diagnosis of heart disease was made, and the owner informed that the animal might die suddenly.

On the morning of the 14th November the gelding died rather unexpectedly, and the heart was removed and examined later in the day.

Lesions. The right heart was much dilated. A few sub-endocardial hæmorrhages were noted, one about the size of a sixpenny-piece on one papillary muscle in the left ventricle, and another, smaller one, on the septum in the right ventricle. The bicuspid, aortic, semilunar, and tricuspid valves were all affected. In parts they were roughened, especially on the surfaces facing the blood stream. The accompanying photograph—the heart, split open and flattened out, showing the interior—gives an indication of the condition of these valves. In the tricuspid valve the left cusp (1) presented a

ADMINISTRATION OF CHLOROFORM STANDING.

I was very interested in reading Mr. Howard's paper in *The Veterinary Record* on the above subject. I have administered chloroform standing in a good many cases in both horses and mules, and I thoroughly agree with Mr. Howard as to the advantages of the method.

For the past two years, since I have been in this depot, I have administered chloroform standing in very nearly all cases I operated on, and have not had a single accident or death from chloroform. Unfortunately I have not got a record of the number of cases, but it is quite considerable. The average number of stock in this depot, including horses and mules, is about 3500, all ages from six months to six years.

The method I adopt is practically the same as described by Mr. Howard, except that I chloroform outside and hold the horse or mule by means of an ordinary head collar with two ropes attached, one on either side. I use a Carlisle muzzle, excluding air, and start with 3 ozs. for anything over three years of age, under that age I start with 2 to 2½ ozs. It is often necessary to give another ounce before the animal goes down, but if the chloroform is quite fresh 3 ozs. is, as a rule, sufficient, though cases do occur in which one has to give considerably more. I have given 6 and 7 ozs. without any ill effects.

The majority of cases go down perfectly quietly

in four to six minutes, without giving the slightest trouble; but there are some cases in which there is a stage of excitement, and some horses do fight, but even then there is no difficulty in holding them. I have never yet seen a horse get away.

Cases in which there is much excitement I attribute to the chloroform not being fresh. With fresh chloroform and a 3oz. dose, the horse goes under so quickly that there is no time for the stage of excitement. Beyond allowing the animal to walk round if restless, and holding up a fore leg if he is slow in going down, I do not interfere with him and do not put on hobbles till he is on the ground, and then only if the operation is likely to take time. There is no difficulty in putting on hobbles when the animal is down.

During the discussion on Mr. Howard's paper some people seemed to think there was considerable danger in horses rearing up and falling backwards. The danger appears to be more imaginary than real. I must say I have seen a few horses do so, but not immediately the chloroform muzzle was put on, as they were generally partially under, and did not do themselves the slightest harm.

Like Mr. Howard, I am quite convinced that if people try this method of administering chloroform they will find it efficient and safe, and particularly useful with troublesome horses. The method may be objected to on account of taking more time than the ordinary method, but it really does not do so, as it is important to remember that the moment the horse goes down he is in a fit state for surgical operation.

J. W. O'KELLY, Capt. A.V.C.

Remount Depot, Mona, Punjab, India.
10th December, 1913.

THE EFFICACY OF ANTI-TETANIC SERUM.

I read with much interest—and some astonishment—the letter of “Pre-Historic” on immunisation against tetanus, published in your issue of November 29th, 1913.

It has been my fortune, or misfortune, to practise in a tetanus district for more than thirty years. In the pre-antitoxin period I treated my cases over a long series of years and got a few, very few, recoveries under the old methods of treatment. Today I do not see half-a-dozen cases of tetanus yearly in a somewhat active town and country practice. I have taught my clients the value of immunisation, and many of them keep tetanus antitoxin on hand as a staple stable supply, giving a dose to every animal that receives even a trivial injury. I immunise my surgical cases automatically, without consulting the owner, and usually without even mentioning the fact that I have done so. If I castrate a valuable horse he gets a dose as soon as he gets up, and I have never seen a case of tetanus follow immunisation practised within 48 hours of the reception of the injury.

Furthermore, during the past six years I have been more or less closely in touch with the labora-

tory end, and letters of complaint about biological preparations reach my desk from all parts of the United States and Canada. I have never received a single complaint going to show that tetanus followed proper and prompt immunisation.

Now I do not wish to convey the idea that tetanus antitoxin is a specific immunising agent; *it is not*. We may immunise against enough toxin to kill a horse, but can hardly expect the same number of units to protect against an amount of virulent toxin that would kill a dozen horses.

I do, however, want to drive the fact home that if we insist on getting a properly tested and standardised serum, and immunise our surgical cases promptly, we shall cease to worry about the tetanus corner of our graveyard.

I append the American Standard to allow comparison with the requirements existing in England.

“One tenth of a unit neutralises 100 minimum lethal doses of toxin for 350 Gram guinea-pig.”

All tetanus antitoxin must be tested physiologically before it is marketed.

It is possible to thoroughly immunise a horse against the most massive doses of the toxin and find that his serum had little protective value for other animals.

THOMAS B. ROGERS.

Woodbury, New Jersey, U.S.A., Dec. 19.

ADVANCED TUBERCULOSIS IN A TWO-YEAR OLD SHORT HORN BULL. DEATH FROM BRONCHIAL HÆMORRHAGE.

On the night of Friday, December 12th, the Police Inspector of this town, reported a case of suspected tuberculosis in a bull at a farm some six miles from here.

On the morning of the 13th I visited the farm, and found a two-year old short-horn bull. I examined him clinically; found the temperature and pulse normal, breathing accelerated, and a strong harsh cough. I found that he had been blistered on both sides of the chest. I said to the owner “You have had this animal under treatment?” “Yes,” he said, “He has been off and on for the last six weeks under a veterinary surgeon, but on Thursday night last he bursted a blood vessel and bled profusely from both nostrils. I was told by the veterinary surgeon to report the case to the police, which I did.” I explained to him the process of the tuberculin test, and got his written consent to the inoculation. I told him I would put the animal under the test on the morning of the 15th—Sunday intervening. I also told him to keep the animal under strict observation, and to let the upper part of the loose box door open, for if he got another strong fit of coughing and broke a blood vessel, he would bleed to death.

On the Monday morning I again found temperature normal, breathing better, and he was eating well. The owner said “He looks to-day more like his usual self.” I injected the tuberculin at 9 a.m. and said I would visit again at 2 to 3 o'clock p.m.

At 1.30 a messenger came down to tell me that the bull had had a bad fit of coughing and had bled to death.

On the morning of Tuesday I made a post-mortem examination. The left lung was in a very advanced stage of tuberculosis, the right not much better; the only part that I could say had a healthy appearance was the bottom of the right lobe. I found the mediastinum and pericardium studded with miliary tubercles, but to me the most remarkable feature was the condition of the liver. It was twice the usual size, and of a bluish grey colour, and on dissection I found it of a schirrous nature; on the right lobe I found an abscess the size of a hen's egg, and on middle lobe one as large as a walnut. On opening them I found pus of the colour and consistence of cream. I am sorry I did not keep some for microscopical examination.

Since the Order has come into force I have had many cases of tuberculosis with emaciation and of tuberculosis of the udder, but up to the present I have not been able to find the bacilli in milk.

I hope that the day is not far distant when the Hon. Mr. John Burns' Milk and Dairies Bill will be on the Statute-book.

The hue and cry now is Home Rule and Church Disestablishment, but when the Milk and Dairies Bill becomes law, the churchyard and cemetery establishments won't be so well patronised. One thing is very sure, the infant mortality from this disease will be from 40 to 50 per cent less.

About eight or nine years ago I wrote a letter to *The Denbighshire Free Press*, about the bad sanitary condition of some of the dairies and shippens in this part of the country, but I am glad to say that a great improvement has taken place since then.

T. J. SIMPSON, M.R.C.V.S.

Veterinary Inspector for the County of Denbigh,
Fulbrooke, Ruthin, Dec. 29th.

ABSTRACTS FROM FOREIGN JOURNALS

THE INFLUENCE OF MALLEIN INJECTIONS UPON THE DIAGNOSTIC BLOOD TESTS FOR GLANDERS.

Arpad Marcis, as a result of work done at the Royal Hungarian Veterinary High School at Budapest under Prof. Huttyra, has published an article upon this subject. Various workers, Miesoner among them, have already studied the question of whether the subcutaneous mallein test has any influence upon a subsequently performed agglutination or complement fixation test. They have generally agreed that such an influence exists, and that the blood of non-glandered horses, soon after the injection of mallein, develops and for some little time retains agglutinating and complement-fixing substances similar to those found in the blood of glandered horses. Therefore a non-glandered horse, after the injection of mallein, may react to the agglutination and complement-fixation tests like a glandered one. The subject is obviously one of great practical importance, on account of its

bearing upon the reliability of the diagnostic blood tests in horses previously injected with mallein. The author, after careful experiments of his own, has arrived at the following conclusions, which in the main accord with those of previous workers.

(1) The subcutaneous injection of mallein causes the formation in the blood of non-glandered horses, of specific precipitins, agglutinins and complement-fixing amboceptors, such as exist in the blood of glandered horses.

(2) Precipitins appear after three days, agglutinins after from five to seven days, and complement-fixing amboceptors after from six to ten days. They appear in the blood in the same quantity as in the blood of glandered horses.

(3) The quantity of antibodies existing in the blood of malleined animals begins to diminish from two to three weeks after the injection of mallein, and after three months antibodies can no longer be demonstrated.

(4) In horses which have been injected with mallein, the results of serum tests are of no value until at least three months has elapsed since the injection of mallein.—(*Berliner Tier. Woch.*)

INTESTINAL OBSTRUCTION CAUSED BY A DIVERTICULUM OF THE FLOATING COLON.

Moulis and Salenave record (*Rev. Vét.*) the case of a horse which showed violent colic, with manifest symptoms of intestinal obstruction. Purgatives were given both subcutaneously and by the mouth, but all proved useless. The animal was destroyed.

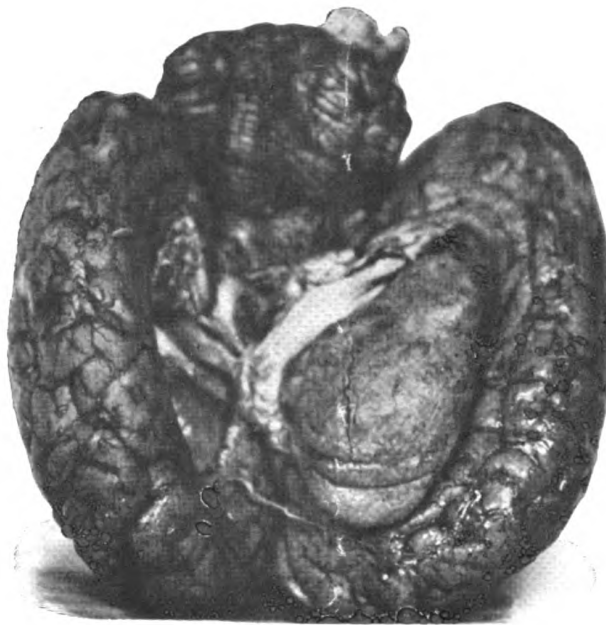
Post-mortem, the cause of the colic was found to be a strangulation of the small colon. The terminal portion of the colon showed a small diverticulum shaped like the finger of a glove, about 1 3/5th inch in length by 3/5th inch in diameter. The diverticulum was in communication with the colon, and was continued by a thin broad cord, which extended over and was inserted upon the rectum. This cord, twisted upon itself, had formed a coil encircling the colon, and by compressing it had caused the intestinal obstruction.—(*Annales de Méd. Vét.*)

W. R. C.

CENTRAL VETERINARY SOCIETY.

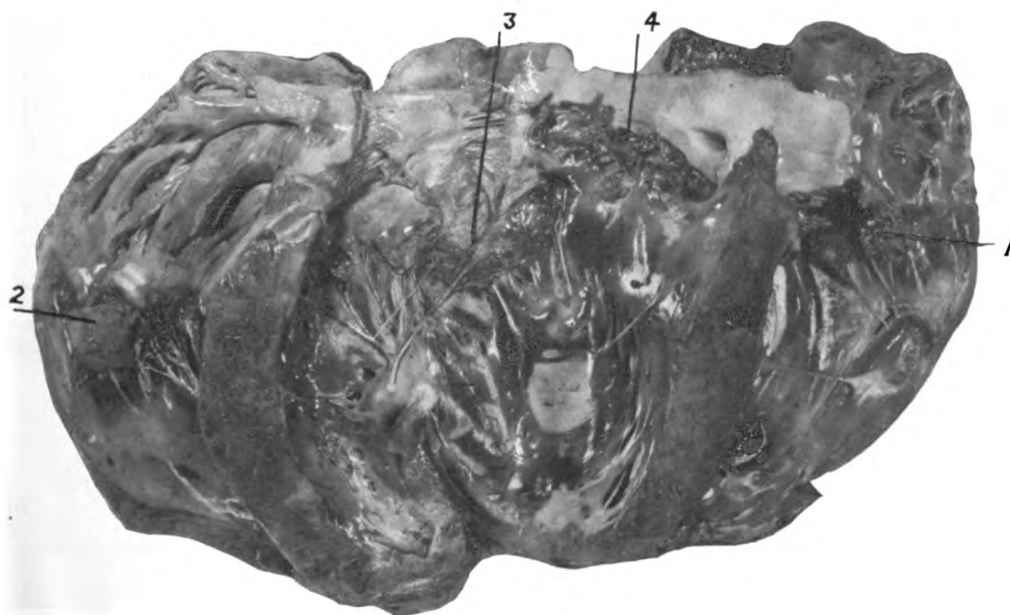
[NATIONAL V.M.A.—SOUTHERN BRANCH].

The usual monthly meeting was held at 10 Red Lion Square, W.C., on Thursday, December 4. Prof. G. H. Wooldridge, President, in the chair. Also present:—Messrs. A. Crabb, J. B. Buxton, P. W. D. Smith, J. F. Macdonald, W. R. Davis, Ralph Bennett, N. Almond, R. Gorton, Prof. E. B. Reynolds, M. Cahill, J. W. McIntosh, W. S. King, T. C. Garry, G. H. Livesey, A. E. Willett, C. H. Sheather, H. D. Jones, F. G. Samson, E. L. Stroud, D. Stewart, R. J. Foreman, T. S. Price, R. Eaglesham, L. Auchterlonie, W. R. Clarke, W. Perryman, S. H. Slocock, S. L. Slocock, Col. L. J. Blenkinsop, W. Willis, Sidney Villar, R. Bryden, H. King, F. W. Willett, F. J. Taylor, and Hugh A. MacCormack, Hon. Sec., and sixteen visitors. The minutes of the last meeting were taken as read, and signed.



PSAMMOMA.

Note by Capt. B. A. Jarvis, A.V.C.



ACUTE ENDOCARDITIS IN A HORSE.

Reported by W. H. Wilkinson, M.R.C.V.S., & Prof. J. F. Craig, M.R.C.V.S., Dublin

Correspondence.—The HON. SEC. said he had received a postcard and letter from Prof. Hobday and Mr. J. Willett expressing regret at their inability to be present.

A letter from the President of Tenth International Congress :—

" November 19th, 1913.

Dear Sir,—As you are probably aware, the Tenth International Veterinary Congress will be held in London in August of next year. The suggestion that the meeting place of this Congress should be in Great Britain emanated from our *confrères* on the Continent, and was intended as an honour to the country of John Gamgee, on whose initiative the first Congress of the series was held fifty years ago. A large and representative Organising Committee, of which I have the honour to be Chairman, has been at work for nearly two years, and the arrangements for the scientific work of the Congress are now well advanced. The Committee, however, are not free from anxiety with regard to the provision of the large sum of money that will be required to carry the Congress through in a manner creditable to our country and profession. Judging from the previous congresses, and taking into account the probability that hospitality will have to be extended to an exceptionally large number of foreign members, no less a sum than £4,000 will be required for the purpose. A general appeal to the members of the profession in the country was issued in June, 1912, but in response to that only some 500 members have promised or paid a donation, although the number of members on the Register at present is over 3,400.

I cannot but think that there must be many who could afford to give a donation but who have not done so because they have not realised to what an extent the honour of our profession is pledged to see that the Congress in London shall be no less successful than any of those previously held. It seems to me that this is a matter to which no member who takes a pride in his profession can be indifferent, and I earnestly appeal to you for such a donation as you feel you can afford.

Donations should be addressed to the Hon. Sec., Mr. F. W. Garnett, J.P., M.R.C.V.S., Dalegarth, Windermere.—I am, dear sir, yours faithfully,

J. M'FADYEAN."

The PRESIDENT pointed out, in regard to the Veterinary Congress, that the Society had already done its part, as a Society, and he hoped individual members of the profession would now do their duty.

Mr. LIVESSEY'S SPECIMEN.

The PRESIDENT reminded members that Mr. Livesey brought some specimens of what appeared to be parasites found on the floor of a dog's kennel in moisture that appeared to have been vomited. Members present at the time were unable to identify them. They had since, however, been identified through the agency of Dr. Leiper by Dr. Alcock as the larvæ of the "lesser house-fly." He (Prof. Wooldridge) suggested that they were probably accidental, and had not come from the dog. As Mr. Livesey had subsequently gone into the matter somewhat further he would now call upon him to supplement his previous report.

Mr. LIVESSEY said that since two meetings ago, when he exhibited the specimens referred to, he had further examined the dog. It would be remembered that the specimen was a larval form of some insect, appearing like segmented larvæ with hair-like processes on each segment, and a distinct proboscis. He did not know how it occurred, except that it was found in the dog's bed, in patches of moisture, which might have been from the bowel, or from the stomach. They were found in twos, threes, and larger numbers, and in all stages of development. At that meeting the suggestion was

thrown out—by the President he believed—that these larvæ were entirely accidental, and had been incubated from eggs deposited in the faeces or vomit of the dog. He (Mr. Livesey) was unable at the time to contradict that, but it seemed to him a wrong view, because there were many other dogs on the premises and in the same room, some of which were naturally dirty in their cage or in their runs, yet only in this one dog were the larvæ found. Therefore after the meeting in order to satisfy himself as to where they came from, he gave the dog an emetic on an empty stomach; and he found quantities of the larvæ, in various stages of development, in the resulting mucus. On repeating the emetic a week later he could not find anything. It seemed to prove that on the first occasion the larvæ were inhabiting the dog's stomach. It was not until a month later that he heard the result of the examination which was made by Dr. Leiper. The parasite was new to him (Mr. Livesey) and he did not think it was described among those infesting the dog. The animal was brought from Natal.

Dr. LEIPER said he did not personally examine them. At his Institution there was an unwritten rule that when an entomological specimen came in, it was handed over to the entomologist. After he (the speaker) had ascertained that it was not a worm, he had nothing further to do with it. Dr. Alcock was very interested in the material, and was quite definite in the opinion he gave on the material submitted.

The PRESIDENT said it would be well if the information could be added as to where the dog obtained the material from. It seemed possible that the infestation with these things was accidental, even though it seemed proved that they had inhabited the dog's stomach. If Mr. Livesey still had the dog, it might be well to give it yet another emetic, to see if any were still left. He (the President) could not imagine that they had been brought over by the dog from Natal.

ELECTIONS AND NOMINATIONS.

Messrs. NORMAN THOMPSON, M.R.C.V.S.; B. A. MCGUIRE, M.R.C.V.S.; W. H. ANDERSON, M.R.C.V.S.; and M. G. BYERLEY, F.R.C.V.S., were unanimously elected Fellows of the Society.

Messrs. H. H. MORROW, M.R.C.V.S., 156 High Street, Shadwell, E, and J. R. HAYHURST, M.R.C.V.S., Cattle Market, Islington, N., were nominated, to come up for election at the next meeting.

PRESIDENTIAL ADDRESS.

Prof. G. H. WOOLDRIDGE.

Gentlemen,—It is now two months since you conferred on me the very great honour of electing me your President for the year 1913-14. It would seem superfluous, therefore, and somewhat belated to inflict upon you anything in the nature of a Presidential address, and had I been left to my own inclination in the matter I should certainly have avoided asking you to submit to the ordeal. I am reminded, however, that it has always been the custom, and as I have great respect for ancient custom I must perforce ask you to be patient with me awhile.

When referring to "ancient" customs, however, I must be rather careful, for although the Central Veterinary Society is one of the oldest veterinary societies in the British Isles, we still have some of its founders with us in the persons of Mr. Rowe and Mr. T. Salusbury Price, neither of whom can yet be called "ancient" if appearances and capacity for work are to be the bases on which to form an opinion. The original members are certainly becoming few, the last to leave us being our great friend and adviser, Mr. William Hunting, of whom I had to make sad reference at our last meeting.

One of the most regular attenders, it is very difficult to realise that we shall not have him at our meetings any more, and we shall miss him sitting at his old favourite corner. The name of Hunting will live as long as the veterinary profession exists. As most of you are already aware, a committee has been formed and a fund opened to institute a suitable memorial in his honour, and I venture to express the hope that all the members of this Society will forward some small donation to the fund, in order that the memorial, whatever form it shall take, may be well worthy of the man who did so much so ungrudgingly for all of us.

The Central Veterinary Society is not only one of the oldest, it is also one of the most important of the British veterinary societies, exerting as it does far reaching influence on veterinary politics, and on other matters of veterinary procedure. I have been surprised on more than one occasion when some burning question has been exercising the minds of the profession, and I have asked provincial veterinary surgeons what view was held in their Association, and have been told "we have not discussed it yet, we are waiting to see what line the Central takes first." That is really a wonderful compliment to the Central, and speaks well for the calm deliberation of its members, and the careful guidance of those at the helm in the past. I repeat this not in any spirit of boasting or flattery, but in order that we should realise the important rôle played by the Society, and carefully weigh over our words before giving utterance to them. I trust that the discussions of the Central during my year of office will maintain the same high level, and that we shall lose none of our influence for good in professional matters generally.

In the coming year we are hoping for great things in the veterinary world. First and foremost, there is our Veterinary Surgeons Act Amendment Bill, which we trust will be passed into law. Whatever may have been said of it in its original form, when it also contained clauses designed to protect the profession and the public against various forms of fraudulent practice, it is now a purely domestic Bill, designed only to enable us to raise funds from our own ranks in order to keep the professional flag flying. There is now no reason whatever for external opposition, and it is to be hoped that it may be passed in time to avert the otherwise inevitable bankruptcy of the body corporate.

The next most important event for the coming year is the International Veterinary Congress of London. I do not wish to weary you with repeated appeals for donations to the organising and entertainments fund, but I would point out that the credit of the veterinary profession of the British Isles is pledged in the success of this Congress. The International Congress came into being through the efforts of an Englishman, John Gamgee, and it will be only right and proper that fifty years later the veterinary profession of the United Kingdom shall be able to proclaim within its own domains the most successful of a successful series of International meetings. I understand that up to the present only about one member in six of the profession has sent a donation to the fund. I hope that a goodly proportion of the remaining five-sixths will quickly send along even a small donation, remembering the old Scottish proverb "many a mickle makes a muckle," and so assure the success of the Congress. The benefits of such Congresses are incalculable, for it is only by open and free interchange of views and experiences that progress is possible. We have found that to be the case in local and national affairs as shown in the case of our own Society. It is the same in a far greater degree in International matters.

Only last week I was talking to a veterinary surgeon about this Congress, and he asked bluntly, "What's the good of it?" A little later I found that he did not even belong to his local veterinary society, although he lived

within wonderfully easy access—within a mile—of the usual place of meeting! I enquired the reason, and was asked in return "What's the good of it?" It was quite useless to discuss the matter with a man in that frame of mind, so I gave him up, retorting as the coster did to his pessimistic friend "What's the good of any-fink? Why, nofink!"

I fear there are too many apathetic members of our profession like him, and I wish I could appeal to them to open out a bit, to come out of their shells and mix a little more with their professional brothers. I am sure they would be more than amply repaid, for one takes a much more intelligent interest in any difficult case if one has had an opportunity of discussing it with a professional brother. To some men, however, nothing is any good unless it shows a fair prospect of bringing in an additional guinea at an early date. I am sorry for those men, for I can hardly imagine life to be worth living under such conditions.

The question of the employment of unqualified assistants is an old one, but it was brought to my mind last week by reading an advertisement for one in *The Veterinary Record*. It is a very questionable practice if it is intended to employ the unqualified man to attend to cases professionally. In my opinion such a practice is decidedly unprofessional, and really amounts to "covering," which is regarded as conduct "disgraceful in a professional sense" and liable to severe treatment by the Registration Committee. On the other hand, I can see great uses for such men as infirm attendants, and perhaps dispensers, but they should not be styled "assistants" any more than a farrier who assists one by paring feet for corns or other conditions. The employment of unqualified assistants is mainly responsible for the manufacture of quacks, and often the first man to complain about a quack is the veterinary surgeon who made him—"his own chicken coming home to roost."

A subject that I shall hope to introduce for discussion one day during the year is the question of cruelty to animals. It is a subject we seem to shun for debate, and yet it is a question concerning which we are constantly consulted. The pitiable spectacle of two professional men in the witness box giving evidence on a given case, so absolutely opposed as to be entirely irreconcilable, should certainly be avoidable. It is a matter of small wonder that a magistrate, being a layman in veterinary affairs, feels sometimes bound to disregard entirely such professional evidence. I feel that we ought to regard our professional status more carefully and not run the risk of such adverse comment, which is usually brought about by exaggeration in opposite directions by witnesses on either side, whose zeal to win the case for their respective clients over-rides their discretion. There should not be such divergencies of statement on questions of fact, such as the presence or absence of lameness, but differences of opinion as to the degree of pain caused may quite honestly be held and expressed. There are many aspects of the whole problem, and I think they will well repay an evening's discussion.

Perhaps I may be excused for referring very briefly to the encouraging speech delivered at our annual dinner by Sir Sidney Olivier, the new Permanent Secretary of the Board of Agriculture and Fisheries. Those of us who were privileged to hear him that evening fully recognise that we have a good friend in him, and one who realises the great services which the veterinary profession is rendering, and can render to the community, as regards both the health of the animal population and the health of man, by collaboration with the sister medical profession.

The paper that we are to get to-night from Dr. Leiper is a striking commentary on that point, for since certain parasites of our patients may infect man and cause serious trouble in man, then it behoves us to

tackle our own patients and so assist the medical man in eliminating those risks to the human subject.

I will not detain you any longer now, for, like yourselves, I am anxious to hear Dr. Leiper and to see what he has to show us. In conclusion, I must offer my sincere thanks for the very great honour you have done me in electing me your President during this most important year, and with the hearty co-operation of one and all of you I shall hope to justify the confidence you have reposed in me.

Mr. PERRYMAN proposed a vote of thanks to the President, and expressed his pleasure at seeing Prof. Wooldridge in the chair. He had given a very interesting, though cursory, review of professional work and doings, and had mapped out a course of conduct which he supposed was intended for members to follow in the new year. It was the wish of those members to heartily support the President during his term of office.

Mr. SLOCOCK seconded the vote of thanks, and it was carried.

The PRESIDENT briefly acknowledged the compliment.

CONGRESS OF THE R.S.I. AT EXETER.

Mr. J. W. McINTOSH presented and read his report.

Mr. President and Gentlemen,—I have first of all to thank you for permitting me the opportunity of attending this important Congress as your delegate. It also gave me an introduction to the beauties of Devonshire—a land full of historic interest and glorious scenery. No more suitable centre than its chief town could have been selected wherewith to combine business with pleasure. Exeter is no township of mushroom growth, but a city shrouded in memories of the past, still retaining rights and privileges awarded by England's rulers long ago.

The Congress was received by the Right Worshipful the Mayor of Exeter. The first general meeting was held on July 7th. The Right Hon. Earl Fortescue, K.C.B. (Lord Lieutenant of Devonshire) was installed as President of the Congress, and delivered his inaugural address.

Very suitable accommodation was provided for the meetings in the University College, Guildhall, Victoria Hall, and the Royal Albert Memorial, and excellent arrangements were made for the reception and convenience of members and delegates.

The business of the Congress was divided into four sections and five conferences, all of which were well attended. Such conferences sometimes suffer from being confined to experts, but the gathering at Exeter while providing lavishly for specialists has also had something to say to people in all branches of social activity and may, I think, be heartily congratulated on having produced a number of papers of very great interest. All of these have been published, and in view of this, I shall not occupy much of your time with my remarks.

Conference of Veterinary Inspectors. This conference met on the Wednesday (July 9th) under the genial chairmanship of Prof. Penberthy who, in a very excellent address offered the members his congratulations on the formation of an Association the aim of which was to render their services still more valuable to the community and to obtain for their work the recognition it deserves.

At present there was prejudice amongst stock-owners against the use of tuberculin as a test for tuberculosis. It was certain to his mind that without this, or some other aid, at present unknown, the eradication of tuberculosis would never be accomplished. He looked to the intimate relations of the Veterinary Inspector under the Tuberculosis Order and the owner of infected herds, as a means of establishing confidence in this aid to diagnosis, and an extensiv

adoption in the interests of the stockowner and the community.

The final report of the Royal Commission on Tuberculosis had been received and discussed, with the result, he ventured to think, of deepening the conviction that some portion of the tuberculosis of human beings, especially of infants and young children, owed its existence to tubercle bacilli derived from the lower animals and principally taken into the body with cow's milk and other animal food. The Chancellor of the Exchequer had entered the arena, and, through the National Insurance Act, opened up the avenues of curative treatment.

Demands for the removal of the danger arising from tuberculous animals, though not less insistent on the grounds of being necessary, appeared to have become more moderate and nearer to being practical. He believed that every competent person, who had made a careful study of tuberculosis in cattle and other domesticated animals must be convinced that other and more drastic measures would be required to effect the final elimination of tuberculosis from the live stock of the country. Regarding the Tuberculosis Order, 1913, the stockowner naturally felt that compensation should have been on a more generous scale, and it was to be regretted that it was not frankly admitted that it was, in reality, purely a matter of national health. It was doubtless intended to be complimentary to a "Milk and Dairies Act," and without the latter the Order was incomplete.

Milk and Dairies Bill. Mr. Wm. Ascott, M.R.C.V.S., opened a discussion on the Milk and Dairies Bill. He gave a hearty welcome to the measure, condemned many of the dairies in the South-West of England as a disgrace, but advised that caution should be exercised in putting the Bill in force assuming it became an Act of Parliament, lest by too drastic measures in the first instance, there might be heavy losses to the dairy farmer and considerable reduction in the milk supply of the country.

A good discussion followed, and was taken part in by Dr. Fremantle (Medical Officer Herefordshire C.C.), Mr. A. H. Archer, of Southsea; Mr. G. P. Male, of Reading; Dr. G. H. Garratt, of Cheltenham; Mr. J. A. Dixon, of Leeds; Mr. J. Dunstan, of Liskeard; and myself.

It was generally agreed that a Bill of this kind was very much wanted. One speaker advocated a national service under national regulations, which alone would give inspectors scope and freedom, and thus attract the best men to the work. Another speaker did not know whether the Tuberculosis Order and the Milk and Dairies Bill would work as smoothly together as had been anticipated. He was afraid there might be some over-lapping, and he was of opinion that it would be better if the veterinary inspector under the Tuberculosis Order was also the inspector under the Milk and Dairies Bill. Another speaker said there appeared to be great trepidation in the minds of some people that there was going to be a good deal of friction between the medical officer of health and the veterinary officer, but, personally, he did not see why this should be, if each stuck to his own sphere of work. Nobody would deny that the medical officer should give the final word as to what was fit for the food of man. Another described many cowsheds as "holes of filth." He had no sympathy with those who thought the farmer ought to be compensated on a more liberal scale. He said a man who sold milk from a diseased cow ought not to be rewarded, he ought to get six months instead.

Mr. W. P. STABLEFORTH, F.R.C.V.S., dealt with the subject of "Bovine Tuberculosis." The paper was a highly instructive one, and a discussion followed in which Mr. Bond, Plymouth; Dr. Kerr, Dr. Gamlyn,

Mr. Mole, Mr. Glover, and others took part. Mr. Stableforth expressed disappointment with the discussion, saying it scarcely justified the trouble he had taken in getting up the paper.

Mr. A. H. ARCHER, M.R.C.V.S., read a paper on "The Transmission of Diseases by Animals to Man." He said in the case of domestic, wilful disregard of consequences and gross indifference to the effects produced on their fellow creatures, must be added to the causes operating in the conveyance of diseases from animals to man, or from one human being to another through the medium of an animal. A discussion followed, in which Dr. Garratt, Dr. Webb, Mr. Dixon, Dr. Hay, Dr. Hill, Dr. Barlow, and Mr. Ascott took part.

Dr. HERBERT PECK, of Chesterfield, was to have read a paper on the "Need for Public Abattoirs," but in his absence through ill-health a synopsis of it was given by Dr. Herbert Jones.

In his paper the author directed attention to some well known objections to private slaughterhouses—the main one being the difficulties of inspection. The discussion which followed urged the extreme desirability of public abattoirs, but mentioned some of the difficulties in the way; for instance, compensation to be paid to landlords and tenants of private slaughterhouses and the cost thrown on the rates.

Dr. JONES, in replying to the discussion, said if there was one question which should be treated nationally it was this question of slaughterhouses. The first thing he President of the Local Government Board would have to do was to see that in rural districts slaughterhouses were regulated. The laws with regard to slaughterhouses should be the same all over the country; they must treat it absolutely as a national question.

The PRESIDENT said he should like to have seen some practical suggestion from the Congress which might have been forwarded to Mr. John Burns.

The following resolution was adopted *nem. con.*:—"That the Council of the Royal Sanitary Institute be recommended to bring under the notice of the proper authorities the opinion of this Congress that all private slaughterhouses should be abolished, and that a public abattoir should be established in every sanitary district, or in the case of small districts, in groups of sanitary districts, and that all meat should be inspected on behalf of the local sanitary authorities."

The resolution was carried unanimously, and with this the business of the Conference closed.

In the evening the Mayor and Mayoress gave a conversazione in the University College, which was a brilliant function. The inclement weather prevented the guests from strolling in the grounds adjacent, as originally arranged, but they found plenty to interest them in the various exhibits at the College. They inspected the City Charters, the various Seals, and the City regalia, as well as many other attractions.

The business of the Congress was associated with many delightfully intimate and admirably managed excursions and garden parties, all of which were well attended and thoroughly enjoyed.

I cannot, however, conclude my report without a special reference to the kindly reception given to your delegate by the profession in the South-West of England. After the close of the Veterinary Conference, Mr. Male, of Reading, and myself, were entertained to luncheon. Prof. Penberthy again presided, and after we did full justice to the good things that were laid before us, an extremely pleasant time was spent in moments of mirth regulated by the dial of reason.

Mr. W. R. DAVIS said all would admit that Mr. McIntosh had presented an excellent report of what took place, and he proposed a hearty vote of thanks to him for it.

Mr. PRICE seconded, and it was carried.

Date of next meeting. The HON. SEC. proposed that as the ordinary date of next meeting would fall on New Year's Day, the meeting be held a week later, namely, on Jan. 8th.

Mr. PRICE seconded, and it was agreed to.

THE "HUNTING" MEMORIAL.

The PRESIDENT said he anticipated that Prof. Macqueen or Mr. Henry Gray would have been present to give the meeting some further details about the Hunting Memorial; but he would simply remind members of it, and ask them to subscribe to it.

PARASITES OF DOMESTICATED ANIMALS WHICH INFECT MAN.

By R. T. LEIPER, D.SC., M.B., F.Z.S., Helminthologist to the London School of Tropical Medicine.

When I had the privilege of being present at the meeting of the National Veterinary Medical Association at Carnarvon three years ago, I was much impressed by the fact that nearly all the papers gave rise to eager and sustained discussions. Now, discussions form the most useful part of a scientific society's activity, and it is a source of regret to me that the subject which I present to you to-night is not likely to promote much debate as I confine myself for the most part to explanatory remarks upon the specimens which I have brought to demonstrate.

Prof. Wooldridge, in his presidential remarks, referred to the many interests which the veterinary medical and the medical professions had in common, and I trust it may interest you to learn from my demonstrations how true this is of study of the helminthes or parasitic worms.

My series of parasites of domesticated animals which are known to infect men in various parts of the world comprises twenty-eight species. Some of these forms merely occur in men accidentally or occasionally, and give rise to no special symptoms, others can and do produce active and serious disease. Now to the medical man, and especially to the sanitarian and medical officer of health it is of importance to be able to recognise parasites peculiar to man from those which occur in the domesticated animals, because the measures which would assure the control or elimination of disease in the one case would prove quite ineffectual in the other.

The contrast can be well illustrated by reference to the two diseases known as Ankylostomiasis and Asiatic schistosomiasis. In the former the parasite is peculiar to man, it is spread by the discharge of the worm's eggs in the faeces whence the embryos again infect man through the skin. By a proper disposal of the stools the life-cycle can be broken and the disease gradually got under control. In Asiatic schistosomiasis the eggs similarly pass out in the faeces and infection of man takes place by the skin. But the most stringent measures regarding the disposal of human faeces would not bring about the elimination of the disease from infected areas, for it has been shown that in addition to man, dogs, cats, and cattle in these infected areas also suffer from the disease, and would continue to propagate it. The parasite of Asiatic schistosomiasis when first found in man was named *Schistosoma cattoi*; about the same time the parasite in the disease in cats was named *Schistosoma japonicum*, and it was only later that the two forms were found to be identical, and thus the significance of the dysenteric symptoms in cats and dogs recognised by the medical profession.

I have quoted these two diseases, one an acute anæmia, the other an intractable dysentery to support my contention that the study of the entozoa of man must embrace a knowledge of the entozoa of domesticated animals if the information arrived at is to be of

practical value to the sanitarian. My rôle this evening, however, is that of a naturalist not that of a pathologist or clinician. Of the various forms I shall show, little will be said of their actual significance in the production of disease. A number of my specimens may be better known to some of you than to me. If, then, you find me speaking with an innocent earnestness which amuses you at times you will kindly remember that I am in a position similar to that of the manager of a large works in the West of Scotland whose pride it was to take visitors over the works and explain the various contrivances. On one occasion he had explained with much simplicity the mechanism and uses of certain of his electrical apparatus to a visitor who accompanied one of the directors, he was asked "and what is electricity?" to which he replied, "that you must ask Lord Kelvin." He learned afterwards that his questioner had been Lord Kelvin himself.

I shall now proceed to show the various parasites in their systematic relationships, dealing first with Nematodes, secondly with the Trematodes, and finally with the Cestodes. The majority are smallish forms, and are best seen with the microscope. The microscope has one drawback, that only one person can see the specimen at a time, but I have been fortunate in overcoming this difficulty through the courtesy of Messrs. Leitz, who have enable me to show you my microscopical preparations by means of a microscope specially designed by them, and known as the *Eddinger projection* microscope, which is used either for drawing or for projecting views of actual microscopical slides upon a screen in the same way as an ordinary lantern.

Three of the nematodes are so large, however, that they can best be seen with the naked eye. (1) *Eustrongylus gigas* is a large round worm about a foot in length, as thick as one's littlefinger, and when fresh, of a blood-red colour. It has been found very occasionally in man and occurs normally in the dog. The specimen shown was removed from the kidney of a wild dog from South America, where this parasite would appear to be not uncommon. It lives in the hilum of the kidney, and so disorganises this organ by its presence and growth that, as shown, the kidney eventually becomes merely a thick walled bladder.

(2) *Gigantorhynchus gigas* is also a large thick worm which lives normally in the small intestine, to the wall of which it is firmly attached by the head or rostellum bearing large chitinous hooks. This parasite is a very common one in pigs, and especially in my experience in the pigs in China. It must sometimes be fatal, for I have seen a number of cases similar to the one now exhibited, in which the hook bearing head and anterior part of the body have actually pierced the gut wall, and have been found hanging into the peritoneal cavity. In such cases peritonitis must surely result. No specimens of the adults from man have as yet come into my possession, though several cases are recorded. I have twice diagnosed infections in Chinamen from the discovery of the characteristic wrinkled egg containing the embryo with hooks at one end, in faeces sent for report.

(3) *Echinorhynchus moniliformis*. A smaller form than the previous acanthocephala has been found in man by me in the Sudan. It is a very common parasite in the intestines of rats throughout the tropics, and has as intermediate host the cockroach. The encysted forms are found in the so-called "fat body." As cockroaches are likely eventually to cease entirely to figure in the diet of man we do not need to concern ourselves greatly regarding the spread of this form.

The ankylostomes form a family of small round worms, which give rise to severe and even fatal anæmia when present in numbers. In the tropics, man and dogs and cats suffer severely from its ravages. The species

which produce the disease in man, viz., (4) *A. duodenale* is not exactly the same species as that, viz., (5) *A. caninum* which infest dogs and cats. Quite recently however, Lane, in India, has found a third species (6) *A. ceylanicum* to live in man and cats and dogs.

The ankylostomes afford a very striking example of the manner in which information derived from a study of the parasites of domesticated animals, may supplement or supply valuable information regarding allied parasites in man which could not otherwise have become available owing to experimental difficulties.

In many parts of the tropics, especially in the southern States of the United States of America, and in the tea and rubber plantations of the East, a profound anæmia, due to these ankylostomes, renders the labour problem a constant anxiety and expense. For many years it was thought that infection took place through contamination of food and drink, but Professor Looss, by experiments upon himself and upon dogs has succeeded in establishing that infection in many cases takes place through the skin, from which it follows that protection of the feet of the coolies, by footgear or by tarring, affords a simple means of protection.

I am fortunate in possessing a set of preparations made by Professor Looss himself, which illustrates in a remarkable fashion the various steps of infection of the skin, and the route by which the young embryos pass thence to the intestines. These I now show on the screen. After the eggs, passed in the faeces, have lain outside the body for some hours, and have had access to moisture and oxygen, there develops an embryo which ruptures the shell and then feeds voraciously upon the faecal matter. It grows considerably, and after a few days sheds a sheath, then undergoes metamorphosis, and now makes its way out of the faeces to lie in wait in some moist place, may be for weeks, until it comes in contact with the skin or is swallowed. In this waiting stage we find a second skin has formed, which helps to protect it from dessication. When these sheathed forms come into contact with skin, the warmth causes the little worm to become very active, and the worm punctures the skin, leaving the sheath behind, and enters the fine blood vessels. The section shown illustrates this at various stages. We have worms just half through the cutis, we have others deep in the sweat glands, others, again, in the connective tissue, finally some are seen in the small veins. We now can trace them in our sections as follows: they pass in the venous blood to the right heart, thence to the lungs. Here they break out into the air vesicles, and we see them now free in numbers. Thence they pass up the bronchi in the mucus, up the trachea, and are swallowed, thus reaching the stomach, and finally intestine, where they become adult.

For a long time this extraordinary story was not believed. When Looss had demonstrated it, by means of such preparations as these, it was suggested, particularly by Sambon, that the forms passing up from the lungs were being eliminated, i.e. were side-tracked. Recently, however, Professor Fülleborn, of Hamburg, has demonstrated that this route is a normal one by a series of experiments in which the trachea was cut across, and the upper portion blocked. The worms were thus eliminated from the lungs and were not swallowed. Infection of the dogs did not follow, although the controls showed signs of heavy infection after the application of fewer embryos to the skin. The "lung" forms were similarly eliminated in another series of experiments by the sectioning of the œsophagus. In these dogs also, infection did not result, although the young worms poured from the upper end of the cut œsophagus. Thus it followed that the forms passing through the lung were the actual infecting forms. Professor Looss and others have applied the meta-

morphosed young to their own skin, and have succeeded in infecting themselves in this manner.

Before we leave the Nematodes, I must refer to the occasional occurrence in man of (7) *Toxascaris canis*, (8) *Belascaris mystax*, and (9) *Gnathostoma spinigerum*, parasites that are found in cats and dogs, the former in this country and practically universally, the last named in India and Siam, and (10) *Trichostrongylus instabilis* of sheep.

The guinea-worm (11) *Dracunculus medinensis*, which occurs sometimes in dogs, and very rarely in other domesticated animals, is probably an accidental infection in them of a parasite normally limited to man.

Turning now to the Trematodes. We have occasionally in man the common liver fluke (1) *Fasciola hepatica* which you all know quite well, and another sheep liver fluke which is met with only in the tropics, and, as now shown, is characterised by its long ribbon-like body (2) *Fasciola angusta*. There are also differences in the gut which distinguish this form from *F. hepatica*. While the normal habitat of these flukes is the bile ducts, it is interesting that in man they may wander about in the tissues, and even burst through the skin in abscesses. There is in the Hunterian Museum a pretty preparation of a young *Fasciola hepatica*, removed from behind a man's ear, and I have heard of specimens of *F. angusta* discharging in abscesses on the legs. Another liver fluke of sheep (3) the distoma lanceolatum or *Dicrocoelium lanceolatum* has also been recorded in man, while in a recent letter Dr. J. Bell, of Hong Kong, informs me that he has once seen specimens of (4) *Eurytrema pancreaticum*, which in enormous numbers almost occludes the pancreatic duct of cattle in China. It appears to be limited in its distribution to the far East. We pass now from the parasites of herbivores to those of carnivores. The cat and dog each provide a species of *Opisthorchis*:—(5) *Opisthorchis felinus* common in cats in Eastern Europe is recognised as the same species as *Opisthorchis sibiricum*, which is said to be present in 4 per cent. of persons examined at Tomsk, in Siberia; while (6) *Opisthorchis novorei*, which infects 25 per cent. of the dogs in Lahore, has also been found in a few Mahomedans in India.

In Asia in the cat, dog, and pig, an extraordinary pea-like fluke inhabits the tissues of the lungs. It is believed to be identical with the (7) *Paragonimus westermanii*, which in certain districts of China, Formosa, Corea, and Japan give rise in man to a chronic cough, a rusty sputum, and clinical signs resembling consumption. This disease is recognised by the finding of the large brown eggs of the fluke in the sputum. A piece of lung showing the little parasites in pairs in the tumours, and a slide illustrating the eggs in the sputum are now shown.

Another common parasite of man in the far East is (8) *Clonorchis sinensis*, and this also is found quite frequently in the dog, cat, and pig. It is like the *Opisthorchis novorei*, but the testes are branched instead of being lobed. It lives in the bile ducts, and is contracted from eating infected fresh water fish.

We all know what a gross feeder the Chinese pig is said to be, and this view obtains additional support from the number of important parasites it is found to harbour. The pig shares with man a fluke called (9) *Fasciolopsis buski*, which measures 2 to 3 inches in length, and $\frac{1}{4}$ to 1 inch in breadth. This form again is limited to the far East.

Before leaving the Distomes or Fasciolidae we have to mention two tiny flukes that have only come into prominence during the past six months. These are (10) *Yokogawa yokogawa* and (11) *Heterophyes heterophyes*. They are widespread in China, Formosa, Japan, and Corea, and when present occur in very large numbers. The mature specimens of the former are not more than

1 mm. in length, and the latter range up to 2 mm. They live in the small intestine.

Yokogawa is remarkable in that the ventral sucker is replaced by a muscular ring around the genital pore, while *Heterophyes* is characterised by an armature of antler-like spines surrounding the genital pore, which resembles and lies alongside the large well-developed ventral sucker. In four patients from China and Japan I recently found numbers of this latter fluke, and at a post-mortem in one case collected no less than 4,000 worms. These are now shown, as also a specimen from a dog in Formosa.

Turning now to the Amphistomes, which are represented in the Herbivores especially by a large number of species, we have to notice only one form, viz., (12) *Gastrophilus hominis*. This parasite is often found in the intestines of man in Eastern India, and for a long time it was wrongly supposed that it was a normal parasite of the horse. From the specimen of *Gastrophilus sonsinoi* shown it is obvious that two important anatomical features differentiate these two forms (a) in *G. hominis* the genital pore is on the anterior cone-like neck; in *G. sonsinoi* it is on the ventral disc; (b) in *G. hominis* the surface of the disc is smooth; in *G. sonsinoi* it is studded with papillae. A second species viz., *G. secundus* has been found in the horse, but it retains the same differential characters.

Quite recently *G. hominis* has been found in 5 per cent. of the pigs in Indo-China, so we have to blame the pig once more for acting as a carrier of parasites inimical to man.

The Schistosomidae, like the Amphistomidae, contribute one species which infects equally man and domesticated animals. (13) *Schistosoma japonicum* lives in the venous, and especially portal system of man, dogs, cats, and cattle. The symptoms, which takes the form of an intractable dysentery, are due to the erosion of the mucous membrane of the intestine caused by the hard eggs of the worm which slowly work their way through the tissues from the vessels in which they are laid, to the lumen of the gut.

The Schistosomes, or Bilharzia worms, form a very small section of the parasitic worms of man, but by their wide distribution and the serious and often permanent invaliding they entail, they would suffice alone to place the study of Helminthology in the minimum curriculum of tropical sanitation.

As regards the life history of these various flukes it may be said that much remains unknown, but what we do know points to the conclusion that the development of the various species follows essentially along those lines so admirably elucidated by Thomas in the case of the liver fluke.

The differences that will be found will probably lie in the manner in which the final or cercarial stage eventually reaches the body of the final host. Thus in *F. hepatica* the cercaria encysts free upon grass, and is then swallowed, while in *Yokogawa* and in *Opisthorchis* the cercaria encyst in the flesh of edible fresh water fish.

Of cestodes we have two important and several accidental infections to which reference must be made. The important forms in my opinion are those which may develop their cystic or larval stage in the tissues of man, and so leading to grave functional disorders. You probably know too well the gross changes that result from the development of hydatids. These changes occur in man also and have not infrequently a fatal issue.

You know, too, the significance of *Cysticercus cellulosae* in pork as the origin of the tapeworm *Taenia solium*, of *C. bovis* in cattle as the early stage of *Taenia saginata*, and of the plerocercoid of fish which becomes the *Dibothriocephalus latus*. I refer to them all merely to direct your attention to this one point that the infection of a man with *Taenia solium* may have a much more sinister

effect than the vague anæmia and mental disturbance which follow upon infection with an adult tapeworm such as *T. saginata* (= *T. mediocanellata*) or *Bothriocephalus latus*. Man can function for *Tænia solium* as intermediate host as well as final or definite host. That is, he can directly infect himself with cysts by the contamination of food with cestode eggs from his own faeces. It happens that these cysts not only develop in his muscles but not infrequently lodge in the brain and may cause by their growth an incurable insanity. It behoves the physician, therefore, to deal promptly and rigorously with an intestinal tapeworm of the species *Tænia solium*.

Of little practical importance are infections of man with *Dipylidium caninum* of the cat and dog, and with *Hymenolepis nana* and *Hymenolepis diminuta* of rats and mice. The interest lies in the fact that fleas are the intermediate hosts, and as these species are commonly found amongst children it is legitimate to suppose that infection takes place through the drowning of the fleas in fluid food such as milk, etc.

I conclude my demonstration by showing sections of the brain, lungs, and heart of a man who died in Hamburg from a somatic infection with a larval tapeworm probably *Sparganum prolifer*. This larval form is peculiar in that it continues to grow and gives off branches so that in this case the whole body seemed literally writhing with a hydra-like tapeworm. We do not know the adult form of these *sparganum* worms, but they are related apparently to the *Bothriocephalus* group. Recently the species or a closely allied form has been detected in the pig, and it is to be hoped that we may have here a means of ascertaining in the future the sig-

nificance and origin of these extraordinary vegetative parasites.

The PRESIDENT said he was sure all the members would feel much indebted to Dr. Leiper for the admirable address, and his wonderful exhibition of specimens. He felt sure Dr. Leiper would not expect the Society to discuss the matter in the usual way, especially as the collection was practically unique. It was particularly instructive to see the ankylostomes actually in the skin and lung tissues finding their way to their predilection seats. He believed he recognised one specimen—*eustrongylus gigas*—as from one of his own patients which came from the kidney of a carnivore at the Zoo. [Dr. Leiper: Yes]. He had not diagnosed it during life. The meeting would no doubt have been interested to see a specimen of trichinosis if the lecturer could have shown one. He could not sufficiently express his own gratification for the splendid demonstration.

Dr. LEIPER: The specimen of *Eustrongylus gigas* shown was, as the President supposed, derived from a dog which had died in the Zoological Gardens. A number of forms of which I had not time to deal have, perforce, been passed over. *Trichina spiralis* seemed so familiar, and as I had nothing new to say about it I passed it over. I may mention, however, that I had hoped to show you the adult forms, but was unable to make in time sufficiently satisfactory preparations for exhibit.

To the query regarding the infection of sheep between the winter frosts and the commencing summer, I may say that I have no specific information. If I may generalise somewhat, however, I might add that it is

DISEASES OF ANIMALS ACTS 1894 to 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders† (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered.*
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
Gr. BRITAIN.													
Week ended Dec. 20	15		15		1	50	5	9	45	79	26	59	1127
Corresponding week in	1912 7		10				1	1	80	133	16	45	704
	1911 16		17				1	5			16	46	600
	1910 32		36				3	5			30	38	520
Total for 51 weeks, 1913	575		629		2	73	155	407	2334	4560	224	2520	31687
Corresponding period in	1912 729		826		82	645	171	310	2828	5965	294	2888	39220
	1911 886		1095		19	487	206	499			408	2427	29814
	1910 1435		1704		2	15	340	995			479	1527	14667

† Counties affected, animals attacked: London 7, Middlesex 1, Surrey 1.

Board of Agriculture and Fisheries, Dec. 23, 1913.

IRELAND. Week ended Dec. 21								Outbreaks			
...	...	...	...	...	...	...	...	1	24	1	17
Corresponding Week in	1912	...	...	...	...	...	...	2	12	1	12
	1911	...	...	...	...	...	...	2	9	3	64
	1910	...	...	...	...	...	...	1	21	5	17
Total for 51 weeks, 1913	...	...	...	...	...	1	1	113	534	133	885
Corresponding period in	1912	...	3	3	68	382	...	66	370	212	1590
	1911	...	9	16	...	...	2	58	333	174	2563
	1910	...	7	13	...	...	1	65	456	95	2152

* These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Dec. 22, 1913

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

probable that a certain amount of infection might take place during the winter and spring (a) from encysted cercaria not destroyed, (b) from cercaria set free during the winter or spring from snails infected during the previous summer. Although cold always inhibits developmental processes, it does not necessarily destroy larval stages—they merely remain checked for the time being.

It is unlikely that fresh infections of each year are derived solely from eggs, and are not due in part to carrying over of redia and cercaria in the bodies of the snails. I did no experimental work bearing upon this particular point when I was following the development of *F. hepatica* in *Limnasa truncatula*.

After the Fellows had examined with great interest the specimens exhibited by Dr. Leiper,

The PRESIDENT formally proposed a very hearty vote of thanks to Dr. Leiper for his demonstration, and to Mr. Charlton (of Messrs. Leitz) for so kindly officiating at the Edrigger apparatus, which so enormously added to the interest of the lecture.

Mr. S. SLOCOCK seconded, and it was carried with acclamation.

Dr. LEIPER and Mr. Charlton briefly acknowledged the vote of thanks, and said it had given them great pleasure to be there, and hoped they would have another opportunity sometime in the future.

A vote of thanks to the President terminated the proceedings.

HUGH A MACCORMACK Hon. Sec.

TENTH INTERNATIONAL VETERINARY CONGRESS, LONDON, AUG. 3—8, 1914.

In addition to the list of donations to the Organising Funds of the Congress which was dated November 22nd, and was published in *The Veterinary Record* of November 29th, I have received the following sums, either promised or paid.

My attention has been called to the following errors which appeared in my last list: Wharam, S., £15 paid should read £15 15s., and Over, R. and H., should read Alf. and R. H. Over. In my list published in *The Record* of May 3rd, 1913, Wartnaby, Geo., £5 5s. should read Wartnaby and Sadler, £5 5s.

I again appeal to all who have not yet sent a donation to kindly inform me at an early date of the sum they intend to give, by so doing they will greatly assist the Committee in the anxious work of making the Congress financially a success, and I now make a special request to all those who have promised a donation, to kindly assist me by forwarding it as soon as possible.

Those names marked with an * in the present list are donors other than veterinary surgeons.

FRANK W. GARNETT, Hon. Treas.

Dalegarth, Windermere.
27th December, 1913.

Paid. £ s. d.	Promised. £ s. d.	Promised. £ s. d.
1 1 0 Lindsay, J.		
1 1 0 Simpson, H. (Strait Settlements)	1 1 0	
1 11 6 Evans D.	1 11 6	
1 1 0 Stevens, W. S.	1 1 0	
2 2 0 Fowle, W.	2 2 0	
5 5 0 Reid, A. W.	5 5 0	
3 3 0 Holburn, A. (Lancashire V.S.)	3 3 0	
1 0 0 Furness, G. J.	1 0 0	
2 2 0 Sikes, C. W. B.	2 2 0	
3 0 0 Kehoe, D. (Pretoria)	3 0 0	
1 2 0 Webster, G. C. (Transvaal)	1 2 0	
7 6 Anonymous	7 6	
1 1 0 Bennett, J. H.	1 1 0	
1 1 0 Morgan, E.	1 1 0	

Paid. £ s. d.	Promised. £ s. d.	Promised. £ s. d.
1 1 0 Brydon, R.		1 1 0
1 1 0 Morgan, Chas.		1 1 0
	Midwood, G. Norris*	5 5 0
2 2 0 Lister, Sir Ashton*		2 2 0
2 0 0 Nicholson, Sir Arthur*		2 0 0
2 2 0 Weigall, Capt. A. G.*		2 2 0
1 0 0 Caldwell, J.		1 0 0
1 1 3 Edgar, A.		1 1 3
5 0 0 Bridges, J. R.*		5 0 0
1 0 0 Sanday, S.*		1 1 0
1 1 0 Evans, G. J.		1 1 0
1 1 0 Winkup, S. A.		1 1 0
2 2 0 Dobbyn, A. J.		2 2 0
1 1 0 Mahony, B. P. J.		1 1 0
1 1 0 Godman, A. F.*		1 1 0
1 1 0 Chambers, S.		1 1 0
1 1 0 Bathurst, C.*		1 1 0
2 2 0 Taylor, Hy.		2 2 0
2 0 0 Patrick, W. C.		2 0 0
2 2 0 Mitchell, G. M.		2 2 0
1 1 0 Pickering, F.		1 1 0
1 1 0 Balden, J.		1 1 0
10 6 Bibby, H.		10 6
10 10 0 Dollar, J. A. W.		10 10 0
	Moody, J. F. B.	1 11 6
1 1 0 Scott, Robt.		1 1 0
2 2 0 Golding, G. H. }		2 2 0
	Perry, E. M. }	
1 1 0 Moore, Robt. (Glamorgan)		1 1 0
10 6 Wright, W. R.		10 6
10 6 M. C.		10 6
1 1 0 Cattell, A. J.		1 1 0
2 2 0 Magee, L. M. }		2 2 0
	Hare, J. B. A. }	
1 1 0 Rider, J. W.		1 1 0
5 5 0 Caton, H. W.		5 5 0
2 2 0 Kernohan R. }		2 2 0
	Kernohan J. }	
	Bediard, E.	2 2 0
1 1 0 Forbes, J.		1 1 0
1 0 0 Bell, J. (Catford)		1 0 0
3 3 0 Caudwell, Wm.		3 3 0
1 0 0 Lord Harris*		1 0 0
10 0 0 Brassey, Albert*		10 0 0
	Lord Crewe*	5 5 0
2 2 0 Down, J. A.		2 2 0
10 0 0 Bayley, F.		10 0 0
5 0 0 Moore, W. J.		5 0 0
1 1 0 Parkin, H. J.		1 1 0
1 1 0 Boyd, W. J.		1 1 0
5 0 0 Craik, Geo.		5 0 0
1 1 0 Edwards, E. R. £1 1s. guaranteed		1 1 0
1 1 0 Kidd, H.		1 1 0
2 2 0 Hazelton, W. C.		4 4 0
3 3 0 Shepherd, J. H.		3 3 0
2 2 0 Burndred, E. J.		2 2 0
2 2 0 Parsons, C. C.		2 2 0
1 1 0 Millington, T. G.		1 1 0
2 2 0 Adamson, D. }		2 2 0
	Adamson, J. }	
1 1 0 Aitken, J. jun.		1 1 0
1 1 0 Barr, A. £1 1 guaranteed		1 1 0
1 1 0 Barnard, L.		1 1 0
10 6 Brown, James		10 6
1 1 0 Burrell, T. }		1 1 0
	Burrell, H. }	
1 1 0 Delacherois, C. H.		1 1 0
3 3 0 Lord Moreton *		3 3 0
5 5 0 McCall, Prof. J.		5 5 0
2 2 0 MacGregor, W. A.		2 2 0
2 2 0 Paton, J. (Herts.)		2 2 0
1 1 0 Stanley, E. T.		1 1 0
2 2 0 Vincent, G. F.		2 2 0

Paid. £ s. d.	Promised. £ s. d.	Promised. £ s. d.	Paid. £ s. d.	Promised. £ s. d.	Promised. £ s. d.
1 1 0 Walker, J. (Alton)		1 1 0	2 2 0 Garry, T. C.		2 2 0
10 6 Warburton, F. J.		10 6	3 3 0 Woodger and Broad		3 3 0
25 0 0 Trigger, R. C.			2 0 0 Buxton, J.		2 0 0
2 0 0 Robinson, R. C.		2 0 0	2 0 0 Buxton, J. B.		2 0 0
10 0 0 Border Counties V.M.S.			2 2 0 Perryman, W.		
1 1 0 Darwell, A. E.		1 1 0	5 5 0 Gosling, J. A.		
20 0 0 Jewell, Chas. *		20 0 0	2 2 0 Catmull, E. J.		
1 1 0 Snaith, P.		1 1 0	10 6 Gorton, B.		10 6
2 2 0 Edwards, J. W.		2 2 0	1 1 0 Gordon, G.		
Woodruff, Prof. H.		5 0 0			
20 0 0 Transl. V.M.S. per J. M. Christy		20 0 0	West of Scotland V.S. per G. W. Weir, Esq.:		
2 15 0 Post-Graduate Course R.V.C.		2 15 0	Douglas, A.		1 1 0
3 3 0 Edmondson, W.		3 3 0	2 2 0 West of Scotland V.S.		
1 1 0 Pratt, E. H.		1 1 0	3 3 0 McCall, Prof. J. R.		3 3 0
Duffy, P.		1 0 0	6 6 0 Douglas, T. A.		
3 0 0 Williams, J. G. *		3 0 0	3 3 0 Taylor, J. (Cathkin)		3 3 0
10 6 Hicks, Herman *		10 6	6 6 0 Begg, H.		6 6 0
1 1 0 Parkin-Moore, W. *		1 1 0	1 1 0 Macfarlane, J.		1 1 0
2 2 0 Hammond, J., jun.		2 2 0	1 1 0 Weir, G. W.		1 1 0
100 0 0 Cooper, the late Sir R. P.			1 1 0 Mitchell, R., jun.		1 1 0
1 1 0 Jarvie, J.		1 1 0	1 1 0 Taylor, J. B. (Larkhall)		1 1 0
1 1 0 Wild A. C.		1 1 0	1 1 0 Robertson, W.		1 1 0
1 1 0 Brogan, E. H. (Uganda)		1 1 0	1 1 0 McDougall, Jas.		1 1 0
2 0 0 Leese, A. S. (Nairobi)		2 0 0	1 1 0 McMurrich, W. S.		1 1 0
2 2 0 Lord Ashton of Hyde *		2 2 0	1 1 0 Ferguson, W. N.		1 1 0
Bate, Alf.		1 1 0	1 1 0 McIntyre, Peter		1 1 0
5 5 0 S. Durham & N. Yorks. V.S.		5 5 0	Hamilton, T. B.		1 1 0
1 1 0 Taylor, J. H.		1 1 0	Brown, D.		1 1 0
1 1 0 Cabot, D. A. E.		1 1 0	1 1 0 Roy, Wm.		1 1 0
2 2 0 Horner, A. J.		2 2 0	1 1 0 McLeod, D.		1 1 0
3 3 0 Pack, C.		3 3 0	Baird, J.		1 1 0
3 3 0 West, E. A.		3 3 0	McIntyre, Jas.		1 1 0
Cleveland, J.		1 1 0			
1 1 0 Reynolds, F. G.		1 1 0	Midland Counties V.S. per H. J. Dawes, Esq.:		
2 2 0 Lydford, T. R.		2 2 0	1 0 0 Young, J.		1 0 0
2 2 0 Dunlop, D.		2 2 0	Dale, W.		3 3 0
1 1 0 Lindsay, P. T.		1 1 0	2 2 0 Yeomans, H.		2 2 0
1 1 0 Watchorn, F. W.		1 1 0	Parson, C. F.		3 3 0
1 1 0 Weighill, W. L.		1 1 0	1 10 0 Thompson, W. G.		1 10 0
5 0 0 Beatie, P.		5 0 0	10 0 0 Coe, W. H.		10 0 0
5 0 0 Lord Northbrook *		5 0 0	1 1 0 Hutchinson, J. E.		
1 1 0 Hackett, Wm.		1 1 0	3 3 0 Deville, J. C.		
3 3 0 King, H.		3 3 0	3 3 0 { Duckworth, T. H.		
10 0 0 Dunning, F. J. (Transvaal)		10 0 0	{ Prince, F. T.		
The Farmers' Club *		1 1 0	10 10 0 Malcolm, J.		
Archer A. H.		1 1 0	4 0 0 Tipper, L. C.		
3 3 0 Robb & Sons		3 3 0	3 3 0 Forsyth, A. B.		
1 11 6 Roberts, H. K.		1 11 6	3 3 0 Hobson, T. H.		
10 10 0 Western Counties V.M.S.			3 3 0 Ludlow, Thos.		
2 2 0 Wells, C. E.		2 2 0	4 4 0 Barling, F. W.		
National Pony Society *		5 5 0	1 11 6 Wilson, Prof. W. T.		
2 2 0 Keylock, H. E.		2 2 0	15 0 0 Midland Count. V.M.S.		
1 0 0 White, J. B.		1 0 0	3 3 0 DeVine, W. J. B.		
1 1 0 Hunting, C. S.		1 1 0	1 11 6 White, J. M.		
5 5 0 National Sheep Breeders Assoc.		5 5 0	1 11 6 Thompson, W. N.		
2 0 0 Sturgess, G. W. (Ceylon)		2 0 0	3 3 0 Dale, W.		
5 5 0 Aubrey, Thos.		5 5 0	3 3 0 Ison, W. E.		
1 1 0 Fleming, J. *		1 1 0	2 2 0 Pemberton, H. L.		
1 1 0 Jordan, J. A.		1 1 0	1 1 0 Chambers, T.		
1 1 0 Hunt, T. M. C.		1 1 0	3 3 0 Smith, Geo.		
2 0 0 Gair, G.		4 0 0	2 2 0 Brain, T. J.		2 2 0
250 0 0 Officers A.V.C.			10 10 0 { Marriott, S. J.		
2 0 0 Hamilton, Alex.		2 0 0	{ Marriott, S. W.		
10 0 0 Parr, Geo.			1 1 0 Blunson, W.		
Central V.S. per H. A. MacCormack, Esq.:			3 3 0 Tart, W. J.		
10 6 Taylor, F. J.		10 6	2 2 0 O'Neill, E.		
1 1 0 Young, J. B.		1 1 0	1 1 0 Murray, R.		
Thrall, R. A. }			3 3 0 Burchall, J. J.		
5 5 0 Thrall, P. R. A. }		5 5 0	5 5 0 Phillips, J. T.		
Woodger, Jos.			1 1 0 Heelis, L. W.		
per Sir J. M'Fadyean		5 0 0	1 1 0 Woodward, S. M.		
1 1 0 Bayley, A. E. £1 1 gtd.		1 1 0			

Paid.		Promised.	Promised.
£ s. d.		£ s. d.	£ s. d.
3 3 0	Bainbridge, J.		
1 1 0	Thackeray, H. T.		
1 1 0	Hiles, H. B.		
3 3 0	Cockburn, R.		
2 0 0	Tipper, L. C.		
5 0 0	Over, A. }		
1 1 0	Over, R. H. }		
1 1 0	Slipper, T.		
10 10 0	Brooke, W. H.		
1 1 0	Clunas, R.		
2 2 0	Gibbings, F. H.		
1 1 0	Brown, W. H.		
1 0 0	Woodcock, R. H.		
5 0 0	Brookes, W. T.		
6 6 0	Martin, J.		
10 10 0	Dawes, H. J. }		
	Dawes, H. W. }		
1 2 4	Interest	1 2 4	24 2 4
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Lincolnshire V.M.S., per F. L. Gooch.			
1 1 0	Taylor, H. C.	1 1 0	
2 2 0	Willows, G. T.	2 2 0	
3 3 0	Lockwood		
3 3 0	Knowles, R. W.		3 3 0
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North of Scotland V.S., per G. Howie.			
1 1 0	N.S.V.M.S.		
10 6	Cumming, D.		
10 6	Crabb, D., Sen.		
10 6	Crabb, D., Jun.		
10 6	Hepburn, Wm.		
10 6	Howie, Geo.		
10 6	Kerr, A.		
10 6	Marshall, W.		
1 11 6	Niven, A.	1 11 6	
1 1 0	McVean, H.		
10 6	Siewwright, A.		
1 1 0	Laing, W.	1 11 6	
1 1 0	Skinner, W.	1 11 6	
1 1 0	Beatie, J.	1 11 6	6 6 0
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			£414 2 7

Slaughter of Calves.

At a meeting of the Council of the Central and Associated Chambers of Agriculture, following the annual meeting, the report from the Slaughter of Calves Committee was read. It included the following:—

"Of the calves slaughtered when but a few days old, many no doubt would not have been worth rearing as stores. It is feared that in the neighbourhood of the large industrial towns many of the better bred calves are killed when only a few days old, which, if saved, would have proved useful beasts for feeding or dairy purposes.

Your Committee are of opinion that it is mainly a question of supply and demand, and that legislative action is not to be recommended. Dairy farmers, with few exceptions, lack accommodation to rear their own calves, which have therefore to be sold at the first available market, and for the purpose for which they will fetch the highest price. Your Committee are informed that many of the calves slaughtered at a very early age are bought at low prices owing to a temporary shortness of milk, or to other causes resulting in local demand for calves being poor at the time; and they feel that many difficulties and hardships would arise from any attempt to curtail the free sale of calves of any age.

On the other hand, they are of opinion that in other districts a difficulty is being experienced in getting a sufficient number of calves for rearing purposes.

They recommend the following suggestions for the consideration of the Associated Chambers and stock farmers generally:—

(a) That good bulls only should be used.

(b) That a register should be kept of all dairy cows and their produce, the latter to be ear-marked for future identification.

(c) That means should be organised for bringing the rearers—and especially those in non-dairy districts—into touch with the dairy farmers, so that the former might be enabled to buy calves from good class cows, the heifers of which they could sell again as "down-calvers." Your Committee believe that such transactions would prove mutually satisfactory to the rearer and the dairy farmer, the former being assured of a good market for his "down-calvers," and the dairy farmer—besides having an incentive (which he has not at present) to breed good stock—being enabled to fill his byres with cows which he knows have been bred from good milk producers.

Your Committee are of opinion that some such steps as are here suggested, will prove necessary if the quality and quantity of the dairy cows in the country are to be maintained."

Mr. W. A. Haviland (Chairman of the Committee) proposed the adoption of the report, and that it should be sent down to the various local Chambers for discussion.

This was agreed to without discussion. The subject will come up again for consideration at the next meeting, to be held on Feb. 3rd.

The Sale of Milk.

The report of the prevention of Fraud Committee, presented at the meeting of the Council of the Central and Associated Chambers of Agriculture on Dec. 10th, draws attention to the Sale of Food and Drugs Bill (No. 309), introduced by the President of the Local Government Board on August 6th last, and recommends that it be strenuously opposed on the ground that it will enable the Local Government Board to make regulations in the supposed interest of the consumer which would entirely alter the Sale of Food and Drugs Acts in a manner disastrous to important branches of agriculture. In the case of Milk, for instance, if the Bill becomes law the Board may make a regulation defining milk as a fluid containing, *inter alia*, 3 per cent. of butter-fat. The seller of genuine milk will then be liable to a penalty of £20 every time he sells milk which happens to contain less than 3 per cent. of fat, and it will be no defence to prove that the milk is genuine. If the Board decide to fix the limit at 3.25 per cent. of butter-fat, or even higher, there is nothing in the Bill to prevent them doing so. Such a regulation would be contrary to the principle for which the farmers of Great Britain have been contending for many years past—that milk which is of poor quality as regards butter-fat, but still is as it comes from a healthy cow—shall not be treated as adulterated. It would displace the Sale of Milk Regulations, 1901, issued by the Board of Agriculture, and undo all the efforts made by the chambers and agriculturists generally to induce local authorities to work under the Sale of Food and Drugs Acts and the Milk Regulations, with the object of preventing adulteration, instead of using these Acts to prevent the sale of milk of poor quality.

Under the Bill the Board may also define butter as an article containing not more than 16 per cent. of moisture. Under the existing law farmers' butter containing more than 16 per cent. (as it often does) is presumed to be adulterated, but he still has the chance of contesting the presumption by showing that he used proper precautions to prevent an excess of water in his butter. The fact that a farmer has this defence prevents officials

of local authorities from instituting proceedings recklessly in cases of excess water in farmers' butter. Under such a regulation as it is open for the Local Government Board to make, the farmers will have no such opportunity. Such a regulation would also annul many provisions of the Butter Act, 1907, which were purposely introduced into that Act in order that a proper distinction might be maintained as regards excess of water between factory and farmhouse butter. This Bill now proposes to give power to a Government department to do by regulation what Parliament has refused to do by legislation.—*Farm and Home*.

Hunting Memorial Fund.

Subscriptions received up to 7 p.m., Dec. 31st, 1913 :

	£	s.	d.
Amount previously acknowledged	120	17	6
Mr. P. J. Howard, Ennis	1	1	0
Major H. J. Axe, A.V.C., Southernhay, Exeter	1	1	0
Mr. H. C. Wilkie, (F), F.Z.S., Paris	1	1	0
H. W. Caton, (F), Mile End Rd., E.	1	1	0
Archibald Renfrew, Broadway, Worc.	1	1	0
G. H. Locke, Manchester	1	1	0
Maj. F. Ulysses Carr, A.V.C., Khartoum, Sudan	2	2	0
Mr. A. Holman Berry, (F), Board of Agric.	1	1	0
Capt. T. Lishman, A.V.C., Aldershot	10	6	
Mr. Guy Sutton, (F), Kensington	1	1	0
J. W. McIntosh, F.R.S.E., Hay's Wharf, S.E.	1	1	0
Wm. Woods, (F), Wigan	2	2	0
Trevor F. Spencer, Kettering	1	1	0
Henry Sumner, Senr., Liverpool	1	1	0
James Sumner, "	1	1	0
Henry Sumner, Junr. "	1	1	0
	£139	5	0

A meeting of the General Committee of the Hunting Fund will be held on Friday, January 9th, 1914, at 6.30 p.m., at the Royal College of Veterinary Surgeons, 10 Red Lion Square, W.C.

HENRY GRAY, Hon. Sec. & Treas.

23 Upper Phillimore Place, London, W.

Cheques endorsed "Hunting Memorial Fund" and crossed "The London, City and Midland Bank, Ltd."

Banquet to Mr. T. D. Young, M.R.C.V.S.

The banquet offered by Dr. Suarez, Director-General of Live Stock, to Mr. Dunlop Young, Chief of the Veterinary Inspection, Department of the London Corporation, on the occasion of his return to England, after making a tour of inspection of the cold storages and breeding establishments of the Republic, took place at the Savoy Hotel, Buenos Ayres, on 20th November.

In his observations at the dinner, Dr. Suarez said the Ministry of Agriculture, wishing to prove its strong belief in the application and constant improvement of the sanitary regulations in meat factories, decided to submit their practice to the examination and criticism of the chief entrusted with the duty to inspect and to decide as to the admission or rejection of these products on the London Central Markets. That was the origin and the reason for the invitation to Mr. Dunlop Young to visit the country and to investigate, with full liberty of criticising in every detail, the method in which meat intended for export was prepared. The Minister of Agriculture wished that he should have the greatest facilities for travelling in the country, so that he might be able to see the stock breeding industry in its real surroundings, and then frankly tell us afterwards what good and faulty points he found, so as to persist in the former and correct the latter.

The Director of Cattle Breeding concluded :—"In the name of the Minister of Agriculture I thank you for your visit and wish you, also in the name of the joint representatives of the cattle breeding industry and trade, who are present here, and of the staff of the General Direction of Cattle Breeding, a happy return and a pleasant recollection of this country, where you leave enduring sympathy."

Mr. Young, in thanking the assembled company for the hospitable demonstration, said that during his visit he endeavoured to fulfil the duties entrusted to him, in an efficient yet impartial manner. He was afraid, however, he had forgotten to make a study of an "after dinner" speech. Personally, he should prefer to spend another day in a refrigerator rather than make a speech, nevertheless, it would be ungracious not to reply to the eloquent speech of Dr. Suarez. It was clear to all the parties interested that the Argentine Ministry of Agriculture had nothing to hide." This was not the time or place for referring to his report, but he could echo truthfully the words of Dr. Suarez when he said that the Ministry might await the report without anxiety. From the moment of his arrival, and during his investigation, he was strongly impressed by the frank manner in which he was allowed to see everything, not only by officials of the Ministry, but by the managers of cold stores and their assistants. Referring to the action of the London delegate of the Ministry of Agriculture, Dr. del Castillo, Mr. Young said that he had greatly helped to smooth away many difficulties. He was in their markets or at their ports, and saw what was rejected; he reported to his Ministry, and immediately correction followed. He might add that Dr. Howarth, Chief of the Public Health Department of the City of London, and Dr. Williams, Chief of the Port of London Inspection, were of the same opinion as himself, namely, that Dr. del Castillo was "the right man in the right place." (Applause.) Coming back to the question of meat inspection, he wished to say that the Ministry of Agriculture, and its inspectors had duties of great responsibility, and they were doing everything possible to convince the people of Great Britain that they intended discharging them conscientiously. The magnitude of their work was enormous, and would be appreciated when he told them that during last year Argentina exported about 70 per cent. of the whole meat imported into Great Britain. It was the earnest wish of the Corporation of the City of London and of its members to keep going the Argentine meat industry, to deal justly by the producers, and to have harmonious relations with all interested, and, as good friends, to take into account any fault when it was pointed out by either of the two parties. He had not time to visit properly their wonderful and extensive country, but through the kindness of Mr. Duggan he had visited one of the large estates, and seen their thousands of cattle grazing on thousands of acres of the most excellent pastoral land in the world. If he might offer a suggestion, he would advise every estate owner not to slaughter any cows or female calves, because, in his opinion, there would in future be a large demand for meat; prices will have a rising tendency rather than falling, at least for a certain number of years. Mr. Young, in conclusion, thanked the Government for its cordial and practical co-operation, and the cold storage firms for the way in which they had facilitated his task, and also for the hospitable and kindly demonstration offered to him—*Meat Trades' Journal*, ex *La Prensa*.

It was reported to the last meeting of the Mansfield Town Council that recently two horses had been slaughtered and sold in the town as prime English beef. The Health Committee undertook to investigate the matter.—*M.T.J.*

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders† (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered.*
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
Gr. BRITAIN. Week ended Dec. 27	19		23				7	40	39	64	12	53	347
Corresponding week in	1912	14		14			1	5	45	103	7	32	433
	1911	22		28			3	5			26	39	620
	1910		30	31			6	13			35	34	456
Total for 52 weeks, 1913	594		652		2	73	162	447	2373	4624	236	2573	32034
Corresponding period in	1912	743		840	82	645	172	315	2873	6068	301	2920	39653
	1911	903		1123	19	487	209	504			434	2466	30434
	1910		1465	1735	2	15	346	1008			514	1561	15123

† Counties affected, animals attacked: London 40.

Board of Agriculture and Fisheries, Dec. 30, 1913.

IRELAND. Week ended Dec. 27									Outbreaks			
	...	...	...	...	...	...	...	...	...	...	18	...
Corresponding Week in	1912	...	...	...	...	...	...	...	...	...	3	...
	1911	...	...	...	...	...	...	...	2	...	9	1
	1910	...	...	...	...	...	...	...	...	...	11	1
Total for 52 weeks, 1913	...	...	...	...	...	...	...	...	113	...	552	133
Corresponding period in	1912	...	3	3	68	382	...	...	66	373	212	1706
	1911	...	9	16	...	...	...	...	60	342	175	2568
	1910	...	7	13	...	...	...	...	65	467	96	2226

* These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Dec. 30, 1913

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, Dec. 23.

SPECIAL RESERVE OF OFFICERS.

ARMY VETERINARY CORPS.

The following Lieuts. (on probation) are confirmed in their rank :—

F. Roche and C. S. Stewart.

THE NEW YEAR'S HONOURS.

His Majesty has been pleased to direct that the following be sworn of His Majesty's Most Honourable Privy Council in Ireland :—

Sir CHRISTOPHER NIXON, Bt.

Sir Christopher Nixon is a distinguished Irish physician. Educated at Beaumont and Trinity College, Dublin, he is Professor of Medicine at the Catholic University. He was the first President of the Royal Veterinary College of Ireland, which he took great interest in establishing. He was created a baronet in 1906.

COLONIAL OFFICE LIST.

ORDER OF SAINT MICHAEL AND ST. GEORGE.

The King has been pleased to give directions for the following promotions in and appointments to the Most Distinguished Order of Saint Michael and Saint George :—

K.C.M.G.

* * * *

ARNOLD THEILER, Esq., C.M.G.

Director of Veterinary Research, Department of Agriculture, Union of South Africa.

ORDER OF THE INDIAN EMPIRE.

The King has been graciously pleased to make the following appointments to the Most Eminent Order of the Indian Empire :—

C.I.E.

* * * *

Maj. JOHN DALRYMPLE EDGAR HOLMES,

M.A., D.S.C., M.R.C.V.S.

Indian Civil Veterinary Department, Imperial Bacteriologist in charge of the Veterinary Laboratory at Muktesar.

* Original articles and reports should be written on one side of the paper only and authenticated by the names and addresses of writers, not necessarily for publication.

Communications for the Editor to be addressed 20 Fulham Road, London, S.W.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1331.

JANUARY 10, 1914.

VOL. XXVI.

THE NEW YEAR'S HONOURS LIST.

All veterinary surgeons will have been gratified by last week's announcement that Dr. Arnold Theiler, C.M.G. has been advanced to K.C.M.G., and that Major J. D. E. Holmes has received the C.I.E. Both men are so widely known that we need not recount their careers. One, a Swiss graduate, and an Honorary Associate of the R.C.V.S., is the leading authority upon veterinary bacteriology and protozoology in British South Africa. The other, a M.R.C.V.S. of less than nineteen years' standing, has attained quite a similar position in India. Both have done incalculable economic service to agriculture, and this is probably the chief reason for their inclusion in the Honours List. Both have done, and are still doing, original scientific work of the highest quality, and that is perhaps our chief cause for pleasure at their selection for honour.

Viewed simply as signs of the times—as indications of the increasing recognition of veterinary work by the State—these appointments are encouraging. Royal honours have always been sparingly bestowed upon veterinary surgeons, but they have been distinctly more frequent of late years. Considering our small numbers, it seems likely that before long we shall have our full share of such distinctions. Further, such distinctions have hitherto been conferred chiefly either upon Army veterinary surgeons, or upon civilians in this country. When two are awarded simultaneously for work done in civil departments in South Africa and India, it shows that the Government has fairly recognised the value of civil veterinary work abroad.

SCHEDULED DISEASES—A SUGGESTION.

The question whether any additional diseases ought to be scheduled by the Board of Agriculture might profitably be given a full discussion by some veterinary association. Such a discussion, would be most advantageously carried on by a meeting of country practitioners; for the diseases which arise first in the mind when the question is asked are found chiefly in the country. Many men think that the time has come when John's disease and bovine contagious abortion, in particular, should be dealt with by the law. Neither is yet very common, but neither is rare; and scheduling would do something to check the sales of infected animals that frequently occur, at least in the case of contagious abortion. Veterinary surgeons collectively are the best judges of the amount and kind of damage a disease is doing, and of the possibilities of controlling it legally. They might well, therefore, discuss this question.

POTATO POISONING IN CATTLE.

By E. McSWINEY, M.R.C.V.S. Cork.

On December 5th ult., I was called to attend ten calves, two of which were said to be dying, and a third was unwell. The calves were aged from seven to nine months. All of them were fed once daily, for a week previous to the illness, on a heavy feed of small potatoes (cooked) and a little Indian meal, with hay, grass and water *ad lib*.

Everything went well until 11 a.m. on the 5th, when the owner noticed two calves standing but scarcely able to move. A small quantity of fluid faeces, black in colour, was passed; all food was refused; the abdomen was not distended. That was the information I got from the owner.

I reached the patients at 6.30 p.m. on the 5th, when I found the following:—

Calf 1 was stretched, apparently unconscious. The corneal reflex was absent; respirations very slow and nearly imperceptible; extremities warm. The calf appeared as if under the influence of a narcotic drug.

Calf 2 was lying on the chest and partly on the left side, with the head turned to the right shoulder, like a cow in milk fever. He was drowsy and semi-conscious. If the head was drawn forward it returned to its former position when released. The breathing was regular and at times snoring. The corneal reflex was not absent, though nearly so.

Treatment. Both calves received first a subcutaneous injection of strychnine ($\frac{1}{2}$ grain). About 15 minutes later each got a subcutaneous injection of 10 ounces normal saline solution (hot) in four different parts of the body. (Both calves felt the insertion of the rather large hypodermic needle). Just before giving the saline solution *Calf 1* showed twitchings over the shoulder and spasmodic movement of one fore limb—probably the result of the action of the strychnine.

The rumen of both calves was now punctured, when a small quantity of foul-smelling gas escaped as well as a dirty grey fluid. The abdomen was not over-distended, but I thought it advisable to puncture.

In about 12 minutes after using the saline solution *Calf 1* held up the head and opened the eyelids. *Calf 2* at this stage showed no improvement.

I now directed my attention to *Calf 3*. He showed no signs of illness beyond a little stiffness in walking. Temperature was normal. I prescribed a purgative.

Calves 1 and 2 were now conscious enough to

swallow. Having nothing else at hand I advised that each be given immediately, in one dose:

R. Ol. lini Oj.
Spts. frumenti 3v.

and directed that in two hours both were to receive one pint of tea infusion—the ordinary tea such as the ladies take, but the bovine dose was to be ten times as strong. The tea was to be repeated after a further lapse of two hours.

When the owner visited the calves at 4 a.m. next morning (6th ult.) he found both of them walking about the yard. Faeces were not passed even up to 10 hours; and food was not taken for four days later. All recovered in the course of a week.

Remarks. It is likely that the illness was the result of the ingestion of large quantities of potatoes, some of which were black. The symptoms presented to me were simply prostration and drowsiness. Had the patients been seen earlier probably other symptoms would be noticed. The owner's description of what he saw was given intelligently, but he had not seen the calves from the evening of the 4th until 11 a.m. on the 5th. The patients could be ill during the night of the 4th. None of the calves had received any potatoes for twenty hours previous to the time the first symptoms were noticed.

CYSTICERCUS CELLULOSÆ IN THE PIG.

According to Ostertag, it was the prevalence of this disease which led to the establishment of special sale booths, "measle banks," or freibanks. He also says, "wherever meat inspection has been introduced, *Tænia solium* of man, which develops from the hog cysticercus, has become of rare occurrence."

Neumann says, "Measles occurs frequently in Ireland, Slavonia, certain parts of North America, France and Germany. It appears in the form of an elliptical vesicle showing towards the middle of its length a white spot which corresponds to the invaginated head. The cysts are lodged in depressions excavated in the substance of the organs; they are found almost exclusively in the muscular masses. The measles is sometimes so generalized that cysticerci are met with in all the striped muscles of the body."

The carcass which I saw was that of a well nourished pig, brought over from Ireland for slaughter. Nothing had been noticed which would lead to suspicion in any way.

On slaughter, the whole of the musculature was found to be riddled with white cysts about the size of rice grains, and any movements caused numbers on the cut surface to drop out, leaving pits in the muscle.

The lungs, liver, kidneys, and fat appeared to be free, but there were a number in the substance of the heart muscle.

The tongue showed towards its base semi-transparent, globular vesicles in the sub-mucous connective tissue which could be felt with the finger, and,

if there had been any suspicion, could have been detected in the living animal.

Microscopical examination of a cyst showed the four suckers and the double crown of hooks.

Significance. *Cysticercus cellulosæ* when eaten by man develops into the *Tænia solium*, a tape-worm inhabiting the alimentary canal; but as auto-infection can take place in man and the cysts invade the vital organs, it is doubly important to prevent the sale of measly pork for food purposes.

ERNEST J. BURNDRED. M.R.C.V.S., D.V.H.
Blackburn.

AUTOGENOUS VACCINES.

From various reports it appears that the profession has taken to vaccine treatment, and I, as well as others, have taken advantage of all the information on the subject I could get. Mr. W. M. Scott's book was very welcome. I have also heard that others, like myself, have had indifferent results from stock vaccines—a perusal of the following will plainly show why. Personally I did not know of any firm in this country making autogenous vaccines for veterinary purposes, but when I saw Evans Sons Lescher and Webb (Superintendent of Laboratories, Dr. Annett) advertising the fact, I at once wrote in connection with two cases of mine, secondary strangles and poll evil.

I was first called in to the former on October 10th and left him on October 13th to all appearances progressing favourably. Twelve days later his condition was not satisfactory—a secondary form had set in, since when he has developed numerous abscesses of various sizes continually on his lips, cheeks, intermaxillary spaces, throat and one on his chest. What is taking place internally I do not know.

Treatment was commenced with streptocine (100 million devitalised streptococci per c.c.), 2 c.c. increasing to 6 c.c., but with no benefit; then anti-suppurine (70 million staphylococci, *albus*, *aureus*, and *citreus*; 20 million streptococci and 10 million bacillus coli per c.c.) increasing to 6 c.c. was tried but of no avail.

Then I wrote to the above firm and on Dr. Annett's instructions sent samples of pus from four different abscesses. His report was as follows:—"Cultivations made from the specimens have yielded the following organisms;—

1. *Streptococcus brevis*.
2. *Staphylococcus albus*.

From these an autogenous vaccine has been prepared of which six doses are sent herewith. Each dose (1 c.c.) contains 500 million streptococci and 2,000 million staphylococci. I would suggest that the initial dose be only half this and only if no reaction occurs will it be necessary to increase the dose to 1 c.c. Should 1 c.c. produce no reaction then 2 c.c. can be applied at the next injection. It is essential that a slight reaction should occur if the vaccine is to do any good; the reaction will consist of;—

1. A small rise in temperature (1° — $1\frac{1}{2}^{\circ}$).
2. Probably some little discomfort.
3. First, increase and then diminution in the quantity of pus."

I have now injected the patient three times and apparently there is an improvement. I anticipate, however, that prolonged treatment will be necessary on account possibly of deep seated necrosed areas and probably a fibrous formation of the non-chronic thickenings may prevent free irrigation of the tissues.

With regard to the poll evil, the report is as follows:—"Cultivations made from the pus have yielded cultures of the following organisms:—

1. *Bacillus coli*.
2. *Staphylococcus aureus*.
3. *Staphylococcus citreus*.
4. A short irregular streptococcus.
5. A diplococcus of uncertain species.

From the cultures an autogenous vaccine has been prepared of which six doses are sent herewith. Each dose = 1 c.c. contains 1,000 million each of No. 2 and No. 3 and 500 million of each of the other three. It is suggested that the initial dose should be $\frac{1}{2}$ c.c. and the dose be increased only if no reactionary improvement occurs after the injection of $\frac{1}{2}$ c.c. The interval between the doses should be 4-6 days."

I commenced this case on November 25th by chloroforming, removing considerable quantities of necrosed tissues, and giving as good drainage as possible. Three days later I began injecting anti-suppurine, increasing the dose from 2 c.c. to 6 c.c. When operating I did not find evidence of diseased bone, but the smell of late has been rather characteristic. Has No. 5 anything to do with that? In any case progress was not satisfactory, and is there any wonder? Consider the above report and the composition of anti-suppurine; consider also the doses—Mr. Scott mentions these in his book.

Autogenous vaccine	($\frac{1}{2}$ c.c.)
<i>Bacillus coli</i>	250 million
<i>Staphylococcus aureus</i>	500 "
" <i>citreus</i>	500 "
Short irregular streptococcus	250 "
Diplococcus of uncertain species	250 "
Total	1250 million
Antisuppurine (2 c.c.)	20 million
<i>Staphylococcus albus</i>	140 "
" <i>aureus</i>	
" <i>citreus</i>	
<i>Streptococci</i>	40 "
Total	200 million

Commencement with the autogenous vaccine was only to-day, so no result can be given. I am not concerned with that now. It is a question of stock *versus* autogenous vaccines; and I may here mention that the cost is not so very much more. It would appear that we are not justified in using stock vaccines, except as a first injection, until an

autogenous vaccine can be procured. The laboratory report contains the following:—"Sample received 9 a.m., 31st December, 1913. Report issued 11 a.m., 3rd January, 1914," in other words, I posted the pus on Tuesday evening, and received the vaccine on Sunday following. It behoves us to use only autogenous vaccines as far as possible. We have the advantage of the medical men, as Mr. Scott ably puts it in the preface of his book, and my friend, the village doctor, here agrees with him, he believes vaccine treatment will be submitted to cheerfully by his patients after they have been educated to their use, and not accepted only as a last desperate resort in chronic cases where all other means have failed.

I am wondering how long we veterinary surgeons are to be allowed to keep the vaccine treatment in our own hands. I have now in front of me a medicine firm's advertisement containing the following:—"Quarterines"—"vaccine so easily applied no special knowledge required." The prevention of blackleg is already passing from us, and the price is the same as I have paid for the material. Huntsmen, too, can procure distemper vaccine, hypodermic needles, and all instructions otherwise than through the profession; and then there is tuberculin.

There is a ray of hope, for in Scott's Clinical Bacteriology and Vaccine Therapy, he says that successful results can only be obtained by the strictest observation of every detail. Long may it be so, for this may prove our salvation; the word "routine" should have no place in the veterinary surgeon's vocabulary.

Also, makers of vaccines could protect themselves and us by binding over their assistant under a penalty not to do similar work for firms other than those supplying the medical and veterinary professions—a similar custom is in vogue with dentists.

W. W. LANG.

Ulceby, Lincs.

ABSTRACTS FROM FOREIGN JOURNALS.

ABSCESSSES IN THE INGUINAL GLANDS AS MECHANICAL OBSTRUCTIONS.

F. Hopfe, of Löbau, records the two following cases. A horse suffered from gradually increasing constipation, which after a few days caused colic. A professional examination was then made, and showed that the rectum was completely blocked by a tense swelling on the left side of the pelvis. An abscess of the left internal inguinal lymphatic glands was suspected, and it was decided to open it from the rectum. The swelling was punctured through the rectum with Dieckerhoff's hollow trocar, and a considerable quantity of foul smelling pus flowed away. The discharge of the pus was accelerated by massage from the rectum, and the abscess collapsed. The constipation was then treated by ordinary methods, and the horse re-

covered. The opening of the abscess had no ill effects.

The second case was a pregnant cow. She became tympanitic after eating clover, and the rumen was punctured by a herdsman. The wound healed quickly. Three weeks later the cow showed symptoms resembling labour pains, and the owner expected an abortion. Rectal examination revealed a tense swelling situated upon the left side of the pelvic wall, and almost completely filling up the interior of the pelvis. It was impossible for the flat hand to get past the swelling. Abscess of the left inguinal glands was diagnosed, and the swelling was punctured through the vagina with Dieckerhoff's hollow trocar. As the pus flowed away in small quantity, the opening was enlarged with a lancet, so that it was possible to penetrate into the cavity. The pus was found to contain crumbly and shredded *débris* of tissue. The abscess was washed out and gradually emptied by means of a tube introduced into it.

The cow was delivered of a dead calf two days later, and for some time afterwards she suffered from uterine catarrh, but nevertheless recovered. In this case also, the opening of the abscess had no ill results.—*Berliner Tier. Woch.*

THE INFLUENCE OF EXTRACTS OF ORGANS UPON THE SECRETION OF MILK.

Léopoldo Giusti reports (*Revista Zootecnica de Buenos Aires*) that certain extracts of organs, when injected intravenously into the cow, directly stimulate the secretion of milk. Extracts of the pituitary body, the thymus, the parotid, the udder, the spleen, lymphatic glands, thyroid, "yellow bodies," and uterus all have this effect.

Extracts from the stomach, intestine, lung, oviduct, placenta, vagina, cerebrum, cerebellum, heart, liver, pancreas, supra-renal capsule, testicle, and kidney have no effect upon lactation.

The action of these organic extracts upon lactation is transient, and diminishes when the injections are repeated. The results are almost identical with macerated organs, or with cooked organs.

The extract of the pituitary body is the one which exercises the strongest and most manifest action. In the case of this extract, the action is not confined to the quantity of the milk, but also affects its quality by augmenting its fatty matter.—*Annales de Méd. Vét.*

BOVINE CEREBRAL TUBERCULOSIS.

Rieussec records (*Revue Vétérinaire*) the case of an ox to which he was suddenly called on account of a condition of violent excitement. The animal was absolutely furious, flinging himself on all sides in the stall, trying to climb the manger, bellowing, and striking with his horns into the empty air. These delirious attacks were succeeded by lulls and periods of dullness, during which the general sensibility disappeared, or at least was greatly attenuated. Rieussec diagnosed a cerebral congestion, and instituted appropriate treatment.

The delirious attacks then disappeared, leaving a condition of profound dullness, accompanied by a

convulsive movement of the jaws. The prehension of food was impossible, and when the attendants succeeded in placing a little food in the mouth, its deglutition was accompanied by a convulsive movement of the muscles of the neck and shoulders. At the end of five days the animal died.

Post-mortem, in addition to tuberculous lesions of the splanchnic cavities, the author found a tuberculous mass upon the right cerebral hemisphere, and some small tubercles upon the falx cerebri.

The case was, therefore, one of generalised tuberculosis with encephalic localisations. The uncertainty which exists regarding the cerebral localisation in the ox prevented a precise diagnosis of the region concerned being made during the life of the animal. But the case justifies the conclusion that tuberculosis should always be suspected in cases of cerebral disturbances, whatever their course may be.—(*Annales de Méd. Vét.*)

W. R. C.

SOUTHERN COUNTIES VETERINARY SOCIETY.

[NATIONAL V.M.A. SOUTHERN BRANCH.]

The customary December meeting was held at the Holborn Restaurant, London, on the Wednesday during the Cattle Show week, and was followed by the annual dinner. The ordinary meeting of the Society was preceded by a meeting of Veterinary Inspectors, in connection with the formation of the proposed new Veterinary Inspectors' section of the Society. The President, Mr. G. H. Livesey, of Hove, presided, and the others who signed the attendance book included Messrs. W. Caudwell, Chertsey; James Crowhurst, President of the South-Eastern V.M.A.; J. B. Dier, East Grinstead; T. A. Huband, Sevenoaks; E. W. Morris, Uckfield; P. J. Simpson, Maidenhead; F. G. Samson, Mitcham; J. Alex. Todd, West Kirby; Theo. C. Toope, Dover; and the Hon. Sec., Mr. A. H. Archer, Southsea.

The PRESIDENT explained that at the last meeting of the Society at Brighton it was decided to form a Veterinary Inspectors' section of the Society on the lines of that associated with the South Eastern V.A., and that it now rested with those of them who were veterinary inspectors to nominate a committee and hon. secretary. He took it that this new section of the Society was being formed for the advancement of the special interests of the veterinary inspectors in the counties or area covered by the Society, but, of course, the Society in taking this step were also hoping to do itself a little bit of good, and he had no doubt that the veterinary inspectors who would attend the meetings of this Veterinary Inspectors' section would before long become members of the Society, if they were not already members, and so strengthen the hands of the Society, and indirectly the hands of the National Veterinary Association, and the profession generally throughout the country. He left the matter in their hands to discuss, and if thought advisable, to nominate their committee and officials.

Mr. CROWHURST asked whether any veterinary inspector had a *locus standi* at that meeting, adding that he himself was an inspector, but that he had been invited there as a visitor.

The PRESIDENT replied that they were pleased to welcome any veterinary inspector. Their object was to form an Inspectors' Branch of their Society, and the views, help, and assistance generally of any veterinary inspector acting in any part of the country were wel-

come, and if they could assist them in forwarding the objects of the meeting they were more than welcome.

Mr. MORRIS thought they were too small in numbers that afternoon, and that the matter had better be adjourned till they had a larger attendance.

Mr. DIER: There were really very few of them there that day, and he believed three of them were already on the committee of the South Eastern V.A. He was afraid whether they were not going to split themselves up into too many sections, and he thought that if the two Societies could combine and form one representative committee they were likely to have much more effect in any action they might decide to take.

Mr. TOOPE remarked that that was practically the suggestion he was going to put forward later on—that they should have a committee for the southern division, but there was no objection surely to their making a start that day. They would be having another meeting on the 15th January at Tunbridge Wells, and they could continue the discussion there if they liked.

Mr. P. J. SIMPSON agreed with Mr. Dier that they could go too far in the way of splitting themselves up into too many small bodies, and that if they could get one big meeting of a more representative character they would be able to push things in a much stronger way. It seemed to him that if they were going to form separate branches of the National Veterinary Inspectors' Association they ought to take in a considerably larger area. They would then find possibly that they would be able to get a fair sized meeting. He did not wish for one moment to throw any cold water on the scheme, but unless they were going to get a better attendance than they had that day, he was afraid they would not be able to push things very forcibly.

Mr. TOOPE explained that the suggestion which he put forward at Brighton was that each Society should form a veterinary inspectors' branch or section who would meet in connection with the ordinary meetings of the Societies, and by that means they would be able to get in touch with the National Association. It was impossible for a large body representing a wide area to satisfactorily deal with the special needs of a particular district, but if they had an Inspectors' Branch of the various Societies they would be able to get the views of the local men. He suggested that they should appoint two gentlemen from each administrative county in the Society's area as a committee, and those gentlemen would then be able to voice the views and opinions of the inspectors in each district. He could only add that they would be glad to see any inspector in the Southern Counties present at their meeting at Tunbridge Wells on the 15th January.

Mr. CAUDWELL took it that all veterinary inspectors in their district had been invited to that meeting, and if the attendance that afternoon represented the interest which they took in the matter, he failed to see much hope of forming a really serviceable branch. On the other hand, if they took in a larger area than that covered by the Society, there was a danger of their making it too unwieldy. He proposed that the appointment of a Veterinary Inspectors' Committee be deferred till their next meeting.

Mr. MORRIS: The idea, as Mr. Toope had said, was to get small meetings of inspectors before the ordinary meetings of the Society, at which the inspectors could discuss matters affecting themselves. The South Eastern V.A. had a very good branch, and he did not see why the Southern Counties should not have one as well.

Mr. CROWHURST remarked that the subject was one of very great importance to the veterinary profession throughout the country, and he thought it would be acknowledged that where they had taken concerted action they had derived considerable benefit. He saw no objection to their adjourning this discussion to the

next meeting, but now they had started let them keep the ball rolling.

The PRESIDENT said that it seemed to him it would be a very great pity to shelve this matter, and it ought to be distinctly understood that if it was deferred it was only deferred, and that interest in it was not dropped. He agreed that it was far better to have a strong committee, voicing the opinions of a large district, rather than merely those of two or three, but he gathered that Mr. Toope's suggestion was practically decentralisation, the getting the opinions of small committees scattered over a large district in order to strengthen the hands of the larger committees, and in that case it seemed a pity that a Society like theirs should forego the opportunity of forming its own committee. It would be a thousand pities if this scheme was allowed to drop, and it was almost a pity to defer it for even three months. Surely no harm could be done by appointing two or three delegates from that meeting who would make a point of attending the meeting of the South Eastern committee at Tunbridge Wells with a view to crystallising the idea into something definite. Otherwise, if nothing was done that afternoon it might go forth to the profession that there was a lack of sympathy with the object, and no one would make it his business to attend at the next meeting.

Mr. MORRIS said he would gladly withdraw his proposition in favour of this course being adopted.

The PRESIDENT: That is my own idea, but of course I am not a veterinary inspector.

Mr. CAUDWELL, as seconder of the proposition to adjourn the matter, also agreed to withdraw.

Mr. DIER: I may say that we are not at all satisfied with the fees we get in East Sussex.

The PRESIDENT: Personally, I don't see why you veterinary inspectors should not form committees and hold your meetings in connection with both Societies.

Mr. TOOPE: That was my suggestion.

Mr. SIMPSON proposed that Mr. Caudwell and Mr. Dier be asked to represent that Society at the meeting at Tunbridge Wells, and that their hon. sec. write to all their other members who were inspectors telling them of that meeting, and stating that they also would be welcome.

Mr. MORRIS seconded this, and it was agreed to *nem. con.*

The PRESIDENT added that it was very gratifying to think their meeting had resulted in something being done, and that if they wanted another meeting of inspectors later in the year he was quite sure the Southern Counties Society would be only too pleased to welcome them at their annual meeting next March and return the compliment.

On the proposition of Mr. CAUDWELL, seconded by Mr. SAMSON, the minutes of the last meeting as published in *The Veterinary Record* were taken as read and confirmed.

THE LATE WILLIAM HUNTING.

The PRESIDENT remarked that before the business of the meeting was further proceeded with there was one very sad matter which he had to bring to their notice and that was the loss which their Society and the profession generally, and he might almost say the nation had sustained by the death of the late Mr. William Hunting. He was a comparatively young man himself and had only known Mr. Hunting for some sixteen or seventeen years, and as there were other members of the Society present that afternoon who had known him for a much longer period he would leave it to one of them to propose the vote of condolence which he was sure it would be the wish of them all that they should pass at that their first meeting since their friend's death. Perhaps Mr. Samson would do it.

Mr. SAMSON said he was sorry indeed that their President should have had occasion to call upon him to propose such a resolution with reference to his old friend Mr. Hunting. He had known him for about forty-five years, and had never had anything to say against him, and he had yet to meet the man who could say anything against him. He was the most pleasant and courteous gentleman one could ever wish to meet either in business or pleasure, and they would have to go a long way to find his equal. He did not know that he could say more except that his wife and himself paid a visit to the daughter last week, and that they would be pleased to know that she was tolerably well, and also Mr. Hunting's son. It was with very deep regret that he proposed they send a resolution of condolence and sympathy with the relatives in their sad bereavement.

Mr. ARCHER seconded, observing that it was a sad duty to him to have to do it. He had known the late Mr. Hunting for a good many years, and he could quite endorse every word Mr. Samson had said.

Mr. TODD also desired to associate himself with the remarks that had fallen from the previous speakers. He had known Mr. Hunting for several years, and especially during the two years he had held the presidency of that Society, when their relations were always of the very best. He remembered visiting him on one occasion when he was too unwell to attend one of their meetings at which he had promised to give them a presidential address, but they had the address all the same. He finished it on a sick bed. He felt then somehow that they were not likely to see Mr. Hunting at any more of their meetings, but fortunately he rallied and took the chair on several occasions after that. He was a man of the most marked individuality and striking personality, and certain was it that the whole profession would miss him.

Mr. T. A. HUBAND added that he should also like the privilege of being allowed to associate himself with this vote. He had had the pleasure of the acquaintance of Mr. Hunting for a quarter of a century or more, and during the whole of that time their associations had always been of the pleasantest; and it was a great grief to him, as he was sure it was to them all, when they heard the news of his death. When he saw him in the summer at Maidstone he little thought their friend was so soon to be taken away from them. He had never heard anything but the most favourable and kind opinions expressed as to his character, and he thought no one could deny that the profession had lost in him a man of unique experience and ability. He had often regretted that better notice had never been accorded the great work he did in connection with Glanders. If any man had deserved State recognition with regard to the stamping-out of malignant diseases in this country it had been their late friend.

Mr. TOOPE wished to add just one or two words. He had been brought into intimate association with Mr. Hunting in connection with "The National" during the last two years, and personally he felt his loss was almost irreparable. They would shortly have to find a new head, but the question he asked himself was where were they going to find such a head as he had been. There were few men who took a broader view of things, and few who were able to guide and lead discussions in the way he did.

The PRESIDENT remarked that before putting the proposition to the vote he should like to add his tribute to his friend Mr. Hunting. During the time he had known him he had always found him a sincere and very dear friend. He was a man of extremely broad-minded views; he was above the ordinary pettiness; his interests were always those of his profession; and there were few men of his age and of his experience who would discuss matters on which he was an expert with younger

and more inexperienced men. It was a real pleasure for instance, to see him discussing a question like glanders with perhaps a newly fledged student, never contradicting, never being at all brusque, or insinuating that he had a greater knowledge, but always listening with interest and encouraging one to go on. He thought this was a very great trait in their late friend's nature, and it had been a very great thing for their profession, because it showed the younger men that those of more mature years who had risen to the head of the profession were not above listening to their views, however inexperienced they might seem to be. In this way he had laid the foundation of a life long friendship with many a member of the profession. He was one of the very few men who were welcome wherever he went. No one ever had a bad word to say against him; everyone was always pleased to see him and have a chat with him and put their little troubles before him in the hope that he with his wider experience might be able to give them a little help. He himself had always looked upon him as a very great and personal friend. He always had the same genial manner, and was always ready to talk about dog practice, and although he personally was not interested in that class of practice it was astonishing what a grasp he had of it. He felt, as Mr. Toope had said, that they had lost a leader, and one whose place it would be extremely difficult to fill.

The resolution was then put to the meeting and carried, the members signifying their assent by rising silently from their seats.

The HON. SEC. (Mr. Archer) mentioned that when he received a card from Miss Hunting that her father had passed away he immediately 'phoned to the President, and with his approval ordered a wreath to be sent, and the Society was also represented at the funeral by Mr. Sloccock, one of their vice-presidents. He also took it upon himself to write a letter to Miss Hunting on behalf of the Society, and he had since received an acknowledgment of that communication, but he would, of course, write again after that meeting and tell them of the resolution which the members had passed that day.

Correspondence. Mr. ARCHER announced that he had received letters from Mr. Harding, of Salisbury, and Mr. Crowhurst, of Canterbury, acknowledging the resolutions of sympathy which the Society passed with them at the last meeting.

Apologies or expressions of regret at inability to attend were announced from Prof. Hobday, Messrs. W. Burt, E. Whitley Baker, V. Blake (Ryde), W. Coveney, Percival Carter (Worthing), J. H. Carter (Burnley), C. H. Gollidge, T. A. B. Cocksedge, W. A. Collins, C. F. Hulford, J. C. Munby, J. W. Pritchard, (Brighton), C. Roberts (Tunbridge Wells), H. Smith (Worthing), S. Smith (Horsham), C. H. Spurgeon, S. H. Sloccock, who hoped, however, to be able to attend the dinner, R. A. Thrall, F. Thornton, H. Taylor, J. E. Wallis (Hailsham), and A. C. Wild.

A circular communication with reference to the Sanitary Institute Congress at Blackpool next year was submitted by the Hon. Sec., but on the proposition of Mr. Todd, seconded by Mr. Dier, the question of subscribing or appointing delegates was deferred to the next meeting.

Mr. PERCIVAL CARTER, of Worthing; Mr. E. W. MORRIS, of Uckfield; and Mr. S. SMITH, of Horsham, who had been duly proposed and seconded at the previous meeting, were formally elected members.

It was also decided, on the proposition of Mr. Caudwell, seconded by Mr. Todd, that the next meeting of the Society should be held in London on the usual date.

The HON. SEC. mentioned that he had received a letter respecting the International Veterinary Congress, an extract from which, inviting donations, he had sent out with the notices for that meeting.

Mr. SAMSON: How much have we subscribed as a Society.

The HON. SEC.: I believe it was £10 10s., with a probable further contribution of a similar amount later on.

Mr. SAMSON: Then I will propose that we send another subscription of £10 10s. for the second year.

The PRESIDENT: Don't you think it will be better to defer that to the annual meeting, when we shall have the accounts before us, especially as our Hon. Treasurer is not able to be with us to-day. [Agreed.]

ANTHRAX IN THE HORSE.

By A. H. ARCHER, M.R.C.V.S.

The disease known as anthrax has so frequently been the subject dealt with in papers, letters, and articles appearing in our professional journals, etc., that some among you may consider that everything relating to this disease has been said or written, leaving nothing of interest for further consideration or debate; I, however, am not of this opinion, especially in respect of the manner in which it affects the horse, and the influence that this animal's tissues have on the bacillus, which is the recognised cause of this disease.

The remarks I am about to make are the outcome of prolonged clinical observation and study, rather than assertions or suggestions derived from theoretically scientific investigations, consequently I wish it to be understood that they are made with the desire of evoking discussion, so that doubts may be cleared up, and errors corrected in my own mind, and in the minds of others, should any be in the same plight as myself.

We all admit that the horse is affected with true anthrax, and, I believe, also agree that the form known as "gloss anthrax," where some part of the mouth or tongue is the initial centre of infection, is of this character, but it is in the so-called enteric form, or at least in some of those fatal intestinal affections which are now generally regarded as anthrax, when there is a copious pale yellow semi-gelatinous exudate into the coats of the bowels, accompanied by an intensely congested or apoplectic condition of the adjacent tissues, and of which I once heard our late esteemed and lamented president, Mr. Hunting, remark "I used to wonder what was the real character of the affection in which we find these conditions; now I know what it is. It is anthrax," or words to this effect, that further investigation is required before accepting them unreservedly as cases of anthrax.

Now I trust you will not deem me unduly, or unwarrantably sceptical, when I say unless it be acknowledged that the anthrax bacillus loses a considerable amount of its virulence in the system of a horse, then I have doubt as to the fatal disease presenting the appearances already described, being true anthrax, at any rate in many of the cases regarded as such.

The reason why I am thus doubtful is because, during a period of 35 years practice I, like others, have met with a very considerable number of these cases long before they were suspected as being of a contagious nature, and when no precautions were taken to prevent other animals coming in contact with the carcase or blood of the affected animal, yet in no single instance that I can remember was the death of a horse in which the carcase presented the appearances which are now supposed to be sure indications of anthrax, followed by an outbreak of this disease, on or near such premises, and I consider this strongly supports the contention that either this affection is not really anthrax, or if it be then the disease loses much of its virulence while attacking the tissues of the horse.

There are, I think, some differences in the symptoms exhibited during life by a horse suffering from true

anthrax, and one affected with this enteric disease regarded as anthrax. In the latter there is severe and persistent pain, obstinate inaction of the bowels after the initial stage of the attack, an accelerated full pulse, which becomes weak and thready in the later stages, but there is no special irregularity, the usual indications of suffering are present, and the countenance wears a haggard expression as the fatal termination draws near.

In anthrax there is evidence of pain accompanied by extreme dejection and a peculiar fluttering pulse in quite the early stages of an attack, and while faeces and urine are passed in an almost normal manner, these being the special symptoms which differentiate it from other abdominal affections.

In anthrax the temperature is raised in the early part of an attack, but sinks to about normal, and is often subnormal some hours before death.

This matter assumes added importance now that some insurance companies insure against anthrax.

DISCUSSION.

The PRESIDENT: Is it your contention, Mr. Archer, that anthrax as seen in the horse is not true anthrax?

Mr. ARCHER: I admit that horses do suffer from anthrax, but some at least of these abdominal cases are more in the nature of intestinal apoplexy.

Mr. CAUDWELL thought the reader of the paper would admit that science had made considerable progress since the late Prof. Robertson's time, and that he would also agree that many cases of anthrax proved fatal without the blood showing the specific bacilli. He believed it was now well understood that they could not always rely on a microscopical examination of the blood in the case of the horse.

Mr. DIER had not had a great deal of experience of anthrax in horses, but there was one thing about anthrax which the writer of the paper had not mentioned. He had always noticed that the animals showed great distress in breathing before they died, and that as a rule there was extremely little blood come from the nostrils. He had generally found that they were more likely to get the anthrax bacilli from the lymph stream than from the blood.

Mr. SAMSON confessed that he had not had a great deal of experience of anthrax in horses, but from what one had heard from other veterinary surgeons who had, one was bound to believe that there were cases of anthrax which put on the form of common colic and which were treated as such. He was speaking to a brother practitioner at Croydon market only the previous week, and he told him that recently he had been called in to two cases of what was believed to be colic but which on making a post-mortem he found to be anthrax. If this was so he was inclined to think that anthrax in the horse put on a very different form and showed very different symptoms to what it did in other animals. In anthrax in bovines they had no premonitory symptoms at all, and that opened one's eye and the post-mortem examination was made. It was a question to him whether they had two diseases combined, or whether they had a modified anthrax in the horse not similar to what they had in pigs and bovines. He could hardly conceive that true anthrax could put on these colicky symptoms and go on for forty-eight hours before the patient died. At all events it seemed to him that it wanted more investigation than they had given to it.

Mr. CROWHURST gave several interesting reminiscences of cases that had come under his own notice. One case he said was a very remarkable one. A client sent a horse into the knacker's yard with a request that he would make a post-mortem, but without giving him any history of the case. He went and made the post-mortem and found nothing whatever until he came to one of the parotid glands; that was black, and knowing that anthrax was prevalent in the neighbour-

hood from which the horse had been sent he suspected that disease, and asked for a history of the case. The owner then asked him to look at five other horses which he said would not pull or walk. One of these had a large swelling at the bottom of the neck and they were all very dull and lifeless. He told the man he had every reason to believe that he had got anthrax in his stables, and asked him if he had lost any animals suddenly, but was told no. He treated these five horses, giving them carbolic acid a drachm a day for about ten days, and every horse recovered. The following Sunday, however, a notice came that a bullock had been found dead in a field. He quite agreed that one did not get the usual symptoms of anthrax in a horse that they got in the bullock. He had had many cases of anthrax to deal with in his time, and he could put his hands on farms where they had lost more than the rent of the whole farm in stock every year for years in succession.

The PRESIDENT: What has happened to those farms?

Mr. CROWHURST: They are still let, but they are much more careful now, and we do not get so many cases.

The PRESIDENT: After your long experience in that district, Mr. Crowhurst, have you found that things have really improved as the result of proper inspection.

Mr. CROWHURST: Yes, with the exception perhaps of swine fever.

The PRESIDENT: There are fewer cases of anthrax.

Mr. CROWHURST: Yes, not so many.

The PRESIDENT: But it still exists.

Mr. CROWHURST: Yes.

The PRESIDENT: And may break out again.

Mr. CROWHURST: Yes, in spite of all the regulations you make.

Mr. TOOPE quite agreed that the symptoms of anthrax in the horse were not what they were in cattle, or even in pigs in all cases, but this was not so with regard to every case. In some they would get as marked symptoms and as quick a death as they would ever get in oxen. One thing he would like to draw attention to was the statement by Mr. Archer that many of these cases were possibly apoplexy of the bowel. He had seen many of these cases of apoplexy of the bowel and it was not everyone perhaps who would like to admit a grave mistake, especially when that mistake meant a considerable loss to one's client, but he could give them one instance in which he evidently made a mistake. He was called in to see a horse belonging to a contractor which was in a stable with ten others. The horse was in a dying condition when he saw it, but he made inquiries and came to the conclusion that it was dying from apoplexy of the bowel, and he attributed the cause to some new oats that had not been in the best of condition. Two days later he was called in to see another of the horses. This one had a swelling in the throat, and on taking the temperature he came to the conclusion that he had made a huge mistake with regard to the first one he had examined. The result was the owner lost six horses within a week. Everyone of them was dead within six hours, everyone showed symptoms of apoplexy of the bowel and five out of six showed the bacilli very plainly on making a microscopical examination. In another case he had two horses that lived three days, but in that case he discovered the bacilli during the life of the animals. The symptoms shown in this case also were not bowel trouble but acute congestion of the lungs. He thought the symptoms largely depended upon the place of original invasion. He believed also there was now a process of finding out whether anthrax existed by staining, and that M'Fadyean held that it was possibly diagnostic.

Mr. MORRIS remarked that there was one point he would like to mention. He had sent up a considerable

number of anthrax specimens to the Board, and he had sent them stained in two methods whereas they had asked another man whom he knew, not to send them stained.

Mr. CAUDWELL said that his instructions had been not to send stained specimens. Staining was most distinctive, however, and they ought to make no mistake, especially when they got fresh blood. With regard to the susceptibility of the animals, it was not necessarily a fatal disease. Then, again, some species apparently had more resisting powers than others, and altogether it was a very curious disease.

Mr. HUBAND asked Mr. Archer if he would tell him in what condition he found the spleen in those cases of abdominal apoplexy which he had mentioned. Personally, he did not recollect ever seeing a true case of anthrax in the horse, but in his early days he met with many cases which would readily answer to the description he had heard from Mr. Archer and Mr. Toope. There was also one other very peculiar feature which he had noticed. Supposing an affected carcase, say of a sheep, was hung up in a building that was infested with rats. In the ordinary case the rats would tear that carcase to pieces in a single night, but if the carcase was an affected one they left it severely alone.

Mr. TOOPE replied to Mr. Huband's question that he had not found the spleen to be particularly affected in the horse. Sometimes they would get it considerably engorged, but not by any means in every case.

Mr. ARCHER: In the cases of abdominal apoplexy, as Prof. Robertson used to call it, they got acute congestion rather than inflammation of the bowels. His own clinical experience made him doubt whether there was not a condition of the bowels which simulated anthrax, which was not true anthrax but intense congestion. It was also very easy to mistake anthrax for malignant oedema.

Mr. MORRIS remarked that the bacillus of the latter was gram negative, whereas the anthrax bacillus was gram positive.

Mr. TOOPE: Yes, and further, I believe malignant oedema is also associated with a certain amount of air in the tissues.

Mr. ARCHER, continuing, thought there was no doubt that anthrax did assume different forms according to the mode of entry. Where they got the affected portion near the mouth or throat there they would get throat symptoms, but where the point of infection was the bowel they would get bowel trouble. In all those cases where they got the chief lesions in the bowel they would always get these colicky pains, but they were quite different from ordinary enteritis. At all events he thought these abdominal cases deserved a little more attention than they often received.

On the proposition of Mr. Caudwell, seconded by Mr. Samson, a hearty vote of thanks was accorded Mr. Archer for his paper, and after Mr. Caudwell, the President, and Mr. Toope had mentioned three cases of interest, the proceedings closed with the usual compliment to the President for presiding, proposed by Mr. Samson, and seconded by Mr. Caudwell.

ANNUAL DINNER.

Mr. F. G. SAMSON, of Mitcham, presided at the dinner, and he was immediately supported by the chief guests of the evening, Mr. G. H. Livesey, the President; Mr. J. Alex. Todd, the late Hon. Sec.; and Mr. Crowhurst, the President of the South Eastern Veterinary Association, as his immediate supporters, and in addition to most of those who had been present at the meeting earlier in the day, the company also included Mr. Todd, sen., (Brighton), Mr. W. H. Brown (London), Mr. S. H. Slocock (Hounslow), Mr. E. R. Douglas, and Mr. H. S. Mitchell (Worthing).

At the conclusion of the repast the customary loyal

toast of the King was submitted from the chair and duly honoured, and this was followed by that of

"Our Guests and Visitors," which was proposed by Mr. S. H. Slocock. It was the privilege of all the veterinary societies that he was acquainted with to invite guests to their social gatherings, and this had been a particularly prominent feature with their own Society. On that occasion they had several guests with them who were honoured members of their own profession, and who had done much for their Society in the past. Their President, Mr. Livesey, had been one of the most active members not only of their own Society, but also of the other Societies to which he belonged, and the fact that he specialised to a great extent always made him particularly worth listening to. Then they also had with them as their guest that evening Mr. Todd. He believed he ought to call him Captain Todd, but to them who knew him he was usually called Todd. (Laughter.) As their late hon. secretary for several years Mr. Todd had done a marvellous work for them, and it must have been a great satisfaction to him to see the Society make the progress which it had. They were also pleased to welcome as their guests that evening Mr. Crowhurst, the President of the neighbouring Society, and Mr. Brown, both of whose names he also desired to couple with the toast. (Applause.)

The toast was cordially received, and

Mr. LIVESEY, in returning thanks, remarked that his year of office had been a very pleasant one. At the same time there were one or two regrets which he could not refrain from mentioning. One was that the meetings had not been better attended, a second was the loss the Society had sustained by Mr. Todd transferring his energies to the North of England, while another regret was the great loss the Society had sustained by the death of his predecessor in the chair, their old friend Mr. W. Hunting. Mr. Hunting had been a difficult man to follow, but he must say that since he had been in the chair their reception of himself had been most kind. They had been tolerant of his rulings, and generally had given him every assistance. Mr. Todd had been succeeded in the hon. secretaryship by Mr. Archer, and he hoped that under him the Society would take on a fresh lease of life, that new and active members would join their ranks, and that their meetings would be better attended. It did seem a pity that a Society which was doing such a good work as theirs was, and which discussed matters of vital interest to the profession, should meet with such apathy on the part of the great body of veterinary practitioners, and he hoped that they would use their influence with all the professional colleagues whom they were acquainted with, not only to become members if they were not already members, but also to make a greater effort to attend the meetings of the Society in the future. (Applause.)

Mr. J. ALEX. TODD, in the course of his reply, remarked that he hardly knew how to thank them and absent members adequately for the very great kindness they had shown him and the honour they had done him, not only that evening but also last September. He was very sorry to have to send in his resignation, but it was impossible for him to continue the office when he was so many miles away from the district. They had very kindly subscribed a testimonial to him, and he had duly received from Mr. Whitley Baker a handsome cheque—one quite out of proportion if he might say so, to anything he had done for them. ("No, no.") There had been a good deal of discussion in his family circle as to the form that present should take, but he thought it had now come to a head, and acting on the very practical suggestion of his wife, and on her behalf he also wished to thank them, they were going to invest in a canteen of cutlery. He could assure them it had been a very great pleasure to do anything in the secretarial way for the Society during his period of office, and he

esteemed it an honour to have been associated with the eight gentlemen who had held the office of President during the nine and a half years he had been their secretary. There was one sad thought about this, however, and that was that four of those eight gentlemen had passed away. There was first their old friend Mr. Fred Spencer, whom he might describe as a typical country practitioner; then they lost Mr. Frank Wragg, whom he might describe as a typical London practitioner; they had also lost Mr. Richard Roberts, who was one of the best; and lastly, they had lost their dear old friend Mr. Hunting. He had nothing but the most pleasant recollections of his associations with all, especially Mr. Hunting, and he always regarded it as a great misfortune that when they held their meeting at Salisbury during the second year of Mr. Hunting's presidency they did not have a larger attendance to listen to his extremely interesting paper on his reminiscences of fifty years of veterinary practice.

He hoped that would not be the last occasion by many that he would meet them there, and he again thanked them sincerely for the great honour they had conferred upon him, and for the practical kindness they had shown him. (Applause.)

Mr. W. H. BROWN, in the course of his response, remarked that he had once again to thank them for their hospitality, which had become almost a tradition in the South of England. He was very pleased to be with them again. They all knew his connection with the profession, which began in 1888. There had been a material change in it since he last met them, for his much respected chief had passed away. Although there had never been anything more between them than a mere verbal agreement, they had worked together for five-and-twenty years, and he need hardly tell them they had worked together most amicably, and he might also add, successfully. There was just one or two words more he would like to say of a personal character. The conduct of *The Record* had now fallen into his hands, mainly through Mr. Hunting's instrumentality, and with it had passed the responsibility, but he could promise that as long as he had anything to do with it, the paper would continue to be run in the interests of, and for the benefit of the profession. (Applause.)

Mr. CROWHURST also made a brief but appropriate response, and then proceeded to propose the toast of "Continued Success to the Southern Counties Veterinary Society." He believed it was one of the oldest of the veterinary societies, and it was one that had done a great deal of good work for the profession, and one which he hoped would continue to do good work. On looking down the list of their past Presidents, he saw they had had many illustrious members of their profession in their ranks, and he was sure they all wished the Society every success in the future. He coupled with the toast the name of Mr. Morris, of Uckfield. (Applause.)

Mr. MORRIS, in reply, remarked that he would have much preferred the task had fallen into other hands, as he had only been a member of the Society for a few hours, but he heartily thanked Mr. Crowhurst for his kind wishes, and them for the cordial manner in which they had endorsed his remarks. He hoped that next time they met they would have a larger attendance, and also that someone more worthy would be found to respond for this toast.

The next toast on the list was that of "The Chairman," but before this was proceeded with,

Mr. LIVESEY said that he had a very pleasing duty to discharge in his capacity as President of the Society, and that was to hand a little souvenir of their regard to Mr. Todd. (Applause.) They would remember that last September they made a little presentation to Mr. Todd as a small recognition of the great services he had

rendered the Society during the time he had held the office of hon. secretary, and to remind him of their good feelings towards him when he was absent from them. As Mr. Todd was then on the move, and they had no opportunity of consulting his wishes, it was decided to hand the money subscribed over to him in the form of a cheque for him to spend it as he pleased, but that gift was also to be accompanied with an illuminated address which he could hang on the walls of his house as a mark to all those who entered it of the esteem in which he was held by his brother practitioners in the Southern Counties, and it was with the very greatest pleasure that he now asked Mr. Todd to accept this address. (Applause.)

The address which bore the names of the subscribers to the testimonial and was beautifully illuminated and framed, read as follows:—

"We, the undersigned members of the Southern Counties Veterinary Society, beg your acceptance of the accompanying token of our appreciation of the valuable services you have rendered to the Society for the last nine years, and which have mainly contributed to its growth and prosperity, and to assure you how deeply we regret your departure from the district where your abilities have been so highly valued. We wish you in all sincerity every success in your new sphere of labour, with good health and happiness to attend upon your future career."

Mr. TODD, who had another cordial ovation on rising to accept the address, made a brief acknowledgement, observing that it would always be greatly cherished by himself and his family.

The PRESIDENT gave the toast of the Chairman, and Mr. Samson in reply, recalled some interesting reminiscences of the earlier days of the Society when the members used to meet at the old "Greyhound," at Croydon.

Mr. THEO. C. TOORE proposed the health of the Hon. Treasurer and Hon. Secretary, which was also received with enthusiasm.

Mr. ARCHER, in reply, remarked that he fully realised he had a difficult task to follow such a capable secretary as their friend, Mr. Todd, he could only promise to do his best, and he hoped he should be supported by the members, and that they would be able to revive interest in their proceedings and get their meetings better attended.

TUBERCULOSIS IN CATTLE.

Quite recently I read the report of a very interesting and instructive address by Sir John M'Fadyean.

Referring to tuberculosis in cattle, Sir John says:—"As an excuse for the inaction of owners in the direction of eradication, it has been said that many farmers in this country are still ignorant of the fact that tuberculosis is a purely contagious disease, and believe it to be generally inherited from one or other diseased parent."

We must all agree with Sir John that "tuberculosis is a purely contagious disease," and we may add that every infectious or contagious disease is due to the presence in or on the body of some living organism.

The farmers in Ireland, thanks to Lady Aberdeen, are well aware that the disease is infectious, but they also know, by careful observation and experience, that the disease, in the lower animals and in man, is in some way or other hereditary, and if we expect our opinions to be accepted unreservedly, I think we ought to be very explicit and make it perfectly clear that there are other contributory causes of the disease besides the specific microbe, and one of these causes is almost as important

as the microbe itself. Unfortunately the one essential cause, the infection or contagion, cannot be avoided, but it can be greatly diminished in quantity and potency. The next factor in importance is an inborn predisposition to the disease, but, fortunately, this cause is hereditary and can be easily removed without any cost to the nation; and but for erroneous theories relating to heredity which have been industriously promulgated for the last fifteen or twenty years, tuberculosis in our herds would now practically be a thing of the past and another great achievement placed to the credit of the veterinary profession. Needless to say, the innate power to resist the disease, under ordinary circumstances, may be much increased or diminished.

There are no two opinions as to the importance of good ventilation. Obviously there are two opposing factors bearing on the incidence of the disease—the virus to which the animal is exposed and the power possessed by the animal to resist the disease. Ventilation operates in a dual capacity, diluting the virus and strengthening the innate or inherited powers to resist the disease. There is some difference of opinion as to the best and simplest methods of ventilation with the view of increasing the disease-resisting forces and also with a view to economy. There are other factors which need not be considered at present, such as sanitation, the beneficial and the harmful effects of sunshine, etc., etc.

There is one subject which does not appear to have received due consideration, that is how to obtain the milk best suited to the needs of the infant and which is the most easily assimilated.

The practice of dairymen in many large cities is to keep purchasing half-bred "springers" all the year round, and as far as practical "fattening off," all the time. These men never keep the cows more than one season, and it is surprising the very large percentage of these cows which passes the most rigid inspection at the abattoirs. Some people denounce this practice. They would have all reactors sent to the knacker. They do not consider who is to pay for this wanton waste. Everyone must admit that the sooner reactors leave the dairy the sounder the meat, not to speak of the enormous advantages of a pure milk supply. Some people are sticklers for the purely contagious theory, but they make no protest against the practice of allowing cattle to cough over one another's food, etc., and seem to ignore heredity as a factor entirely. Some enterprising dairy keepers remove all reactors from their stock, but these reactors invariably find their way to other dairies to further contaminate same.

Some people hold extraordinary opinions regarding heredity. They seem to think that no disease can be hereditary unless it is congenital. Some of these people are bacteriologists, clever no doubt in their own way, but, without extended experience and careful observation, their knowledge of bacteria does not help them in the least. They seem to ignore the fact that predisposition to certain diseases are often inherited from grandparents whom they never saw. With regard to the lower animals, proneness to disease is often inherited from the sire with whom they were never brought into contact.

We must believe, what every bacteriologist tells us, that calves are rarely born with the disease: in other words, the disease, though hereditary, is practically not congenital. Farmers and stockbreeders are rather practical in their ideas, and they do not seem to mind whether the causal bacilli enter the body before or after birth. They know that the offspring of affected animals are peculiarly prone to the affection. I think we ought to make it quite plain to the stockbreeder that it is the inborn predisposition to the disease which is inherited, and not the microbe. This is the

opinion now held by the great majority of veterinary surgeons practising in Ireland, and their opinion is supported by the unanimous verdict of leading medical authorities.

Perhaps I may be excused for quoting a few of these opinions.

Munro, in his *Manual of Medicines*, University Series, says:—"Of late years it has been fashionable to minimise the importance of inherited predisposition. . . . The seed is essential, but the soil is scarcely less important."

T. J. Horder, F.R.C.P., Physician to the Great Northern Central Hospital, Chelsea, says:—"The existence of tuberculous families is one of the cardinal facts of clinical medicine. There is a tissue susceptibility, a 'favourable soil,' that constitutes a potent element in the pathology of the disease."

J. Walter Carr, F.R.C.P., Physician to the Royal Free Hospital, says:—"The discovery of the part played in the production of tuberculosis by the tubercle bacillus has led us, perhaps, to attach too little importance to the influence of heredity. . . . What undoubtedly is inherited—and to this, perhaps, at the present day too little importance is attached—is a diminished resistive power to infection by the tubercle bacillus. Unquestionably, from time to time nearly everyone is exposed to infection by tubercle bacilli, but, fortunately, in the great majority of instances the bacilli succumb to the defensive forces of the body."

Sir Richard Douglas Powell, Bart., Physician-in-Ordinary to the King, says:—"But there is a protective influence in the serum of the blood. This resistance to tuberculous invasion is greater in some persons than in others. It is definitely lessened in those descended from a tuberculous stock; it is again lowered by conditions of depressed health from chronic diseases, from evil habits, and from bad sanitation. To all these conditions there is superadded, it is true, a tendency to concentration of infectiousness in surroundings, but an impartial survey of the whole subject renders it quite certain that each of the contributory causes spoken of—heredity, depressed health from chronic diseases, and evil habits—is real and operative in producing vulnerability to an infection so widely distributed as to be practically accessible to all persons."

Sir John M'Fadyen says:—"The compulsory testing of all the cattle in the country, to be followed by the slaughter of all reacting animals, is a plan that no sane and well-informed man could recommend."

Undoubtedly this would be the most effective method of dealing with the disease, but it would be impracticable on account of the cost; one slaughtering would be inadequate to exterminate the ubiquitous specific microbe, and it must not be forgotten that a small proportion of the offspring would tend to revert to the original type. No one understands the elimination of undesirable points better than the intelligent breeder, to whom we are indebted for all available data bearing on the question of heredity in the lower animals.

The following paragraphs are taken from *The Scottish Farmer*:—"Tuberculin at the Perth Sales.—A feature of the sale was the fact that the bull calves from the three expositors had been subjected to the tuberculin test and the results were announced by the auctioneer in every case. In no instance, save perhaps one, could a reacting calf be started above 25 gs., and the cases were rare in which prices at all in agreement with the merits of the animals, apart from the results of the tests, were obtained."

"The cause of this significant change of front on the part of the Northern breeders is said to have been the result of last year's sales. It is currently reported that two of the highest priced bull calves sold last year for export have not gone out of the country. They reacted to the test, and it was useless to ship them. . . .

Hence the fact that almost all the bull calves sold on Tuesday were tested by Mr. Manuel, whose charts were handed over to the buyers when desired and their results announced in every case."

Some advise all calves to be separated from their dams at birth and adequately safeguarded from contagion. This scheme, to my mind, would not be very practical. In order to prolong the safeguarding of these animals they would have to be removed to some lonely island or distant prairie and all the attendants would have to be absolutely free from the bovine tubercle. If it were practical or convenient to continue to safeguard animals which had been removed from their dams at birth, they would not bring enhanced prices for export, as they would be required to mix with cattle abroad, more or less contaminated, and they would neither enjoy immunity themselves nor be capable of conferring any special degree of immunity on their offspring.

The practice, when convenient, of separating calves from their dams at birth and giving them milk only from cows which have stood the test, is to be commended and would be an enormous advantage to the dairy keeper prepared to disinfect his premises and keep nothing but a clean stock, but the plan would be cumbersome in operation as compared with the simple plan of rearing calves only of parents which have stood the tuberculin test after having been duly exposed to the contagion; besides, if put into practice, it would land us no nearer to the ultimate goal—the practical elimination of tuberculosis from our herds.

Seeing that young stock, especially bulls, which have stood the test fetch an incomparably higher price than animals which have not been tested, surely young stock whose parents had also stood the test would fetch a still higher price. Everyone appreciates pedigree, and the longer it is the better. Surely the rearing of such stock, duly registered, would be a money-making business.

At the annual meeting of the Aspatia Agricultural Co-operative Society, Mr. H. Thompson, speaking on the new Tuberculosis Order, which came into operation on the 1st of May last year, said:—"Although a step in the right direction, it does not go far enough, as it only deals with three forms of the disease. The order mostly relates to the udder and milk. There is nothing in the order which empowers the Veterinary Inspector to deal with tubercular disease of the chest—one of the worst forms for spreading the disease—unless the beast is emaciated as well."

At the meeting of the Scottish Sanitary Inspectors' Association in Greenock in June last, Mr. McIntyre, M.R.C.V.S., dealing with the veterinary aspect of the milk supply, said "that the disease by far most prevalent amongst dairy cows was tuberculosis. . . . With each additional year of life the disease increased, so that out of the old milk cows which reach the abattoir an alarming number were found to be diseased."

On the other hand, we find many old, worn-out cows perfectly free from disease owing to the fact that they have inherited power to resist the disease even under long continued unfavourable surroundings.

The Tuberculosis Order is no doubt a step in the right direction. The inspection of meat in abattoirs is admirably carried out; no carcase is passed unless the lesions are purely local, but there is no regulation in force to give reasonable compensation to the butcher. Foreign meat is admitted with portions of the peritoneum removed, as well as all sorts and conditions of meat in the form of sausages.

At a recent meeting of the Agricultural Department, Mr. R. N. Boyd moved a resolution declaring that it would be desirable for the Department to refuse premiums to all bulls which were unable to pass the tuberculin test. Mr. Field seconded. Mr. Field is, I believe, the first M.P. in the British Isles to take this matter up.

He does not go far enough, but if he succeeds in getting in the thin edge the rest will soon follow.

I do hope the Agricultural Department may see its way to set about establishing disease-resisting breeds of cattle, and that the Royal Dublin Society will be the pioneers in giving special awards to classes of animals, male and female, which have been tested and found to have resisted the disease. If the awards were given for bulls only, the disease would probably be lessened by one-third in the succeeding generation, but it would probably take about six times the length of time to eliminate the disease from our pedigree cattle as compared with the practice of giving the awards to both sexes.

When the disease would be eliminated from pedigree stock, the practical elimination of tuberculosis from all our herds would in the ordinary course of events soon follow. Such breeds of cattle would be a boon and a blessing to all, and when exposed for sale would fetch greatly enhanced prices.

J. B. DUNLOP, M.R.C.V.S.

"THE TEACHING OF CLINICAL MEDICINE."

During the last few years there have been occasional evidences in the pages of the medical journals that the belief in the value of clinical study has not been killed out by the developments of laboratory work. Recently the subject has received more attention, and in *The British Medical Journal* of January 3rd there is an address by Sir William Osler; also a long article by Mr. J. Mackenzie, M.D., from which the following extracts are taken. Many of the difficulties encountered and arguments used are similar to those found in veterinary practice.

"I could have illustrated my remarks from other sources, but for the purpose in hand my own experience represents that of the great bulk of general practitioners, and though my attempts to remedy my deficient education may not have been very successful, yet they may serve to convey a knowledge of where the teaching of clinical medicine fails. These experiences refer back to medical education as given thirty years ago, and it will no doubt be contended that enormous advances in education have been made since then. I fully recognise that certain departments, as bacteriology and physiology, have made enormous advances, yet the really scientific teaching of clinical medicine has made little or no advance—in some respects it has retrograded in the sense that the general practitioner is less fitted by his training for the duties of his profession now than he was then. The reason for this is that the teacher of thirty or forty years ago had been a general practitioner, and knew by experience the kind of life the students who would enter general practice would lead, and the aspect that disease would present. Nowadays the teacher is usually innocent of this experience.

On entering general practice I was under the impression that the knowledge of disease was so nearly complete that there was absolutely nothing to be done but to apply that knowledge to my patients. I speedily found that I, at all events, was extremely deficient in my knowledge, for I was continually puzzled by the fact that the majority of my patients presented features widely different from what I had seen in my hospital training. I put it down to my own fault in not having acquired the knowledge, and turned to text-books and visited hospitals in order to improve myself, and took my patients to consultants. Still I made little progress, and after several years it gradually dawned on me that the field of clinical medicine had not, perhaps, been so fully explored as I had thought, and I resolved I

would begin to observe for myself, and take note of every sign or symptom that might appear. I soon found that I was very ignorant of a great many signs and symptoms, some of them very obtrusive, and when I turned to my text-books I found a complete silence on the subject, or a description so little in accord with the facts that it was evident that the authorities did not understand the subject any more than I did. I therefore took courage and laid down a rule that I would not slur over any sign or symptom, but carefully note its presence, try to understand its mechanism and its relation to other phenomena, and to see what bearing it had on the patient's future. Carrying out this idea, I soon came across such a bewildering variety of strange phenomena that it was in vain to attempt to follow them all, so I selected some of the more conspicuous and studied them. But I had scarcely set out on this inquiry when I found that I had to re-educate myself in methods and instruct myself in some of the more simple facts in physiology. I found I had never properly understood the first thing met with in examining a patient, that is, the significance of the statements made by the patient in describing his complaint. I found that in failing to appreciate the significance of the patient's statements, it was not so much a question of the patient's incoherence as of my own ignorance in understanding the condition that gave rise to the sensations. The majority of patients complain because of something that tells them they are not in perfect health. The patient himself cannot very well explain, his recollections are often vague and even misleading. Thus, for instance, the patient would describe attacks of exhaustion and attacks of weakness and of giddiness, and he might vaguely call them heart attacks. A physical examination might reveal no abnormality, and I would be at a loss to account for the sensations. But as I acquired a better knowledge of the heart's abnormal action, I endeavoured to recognise at the same time the sensations that accompanied it. In course of time I acquired a knowledge that enabled me to recognise from the patient's statements the nature of some of the complaints that hitherto I had put aside as of little importance.

"Besides the obscure sensations, difficult to describe, I found that even the most clamant of symptoms—pain—had never really received the attention from clinicians which it deserved. It so happened in my practice that I saw a large number of people suffering from affections of the digestive organs, and my first study was centred on the pain produced by the abdominal organs. By paying careful attention to the pain, the site of its origin, the manner of its radiation, and the circumstances that provoke it, I gradually saw that in this symptom far more information was to be obtained than I had ever expected. But it required great care to get out the facts, and repeatedly the patient's memory was so much at fault that I was baffled. When the pain tended to recur I got him carefully to note all the circumstances. Moreover, as a general practitioner I was frequently summoned to see a patient in great pain, and had the opportunity of questioning the patient while actually suffering. Although I gradually acquired a better knowledge, and was able to adopt a hypothesis to explain the symptoms, it took me a long time to get proofs. Thus the first patient on whom I was able to demonstrate the relation of a gastric ulcer to the pain area, I had watched and studied for ten years. But by pursuing this line of observation in cases of gastric ulcer, and with cases of obstruction in the bowels, and noting the pain as it shifted with diarrhoea, I was able to show that there was an intimate connection between the different parts of the bowel and definite regions in the abdominal wall, so that in certain cases of obstruction, for instance, I would be able to indicate within certain limits the part of the bowel that was obstructed.

This line of observation also enabled me to differentiate the pain due to the digestive tract from the pain due to the other abdominal viscera with more precision than had hitherto been done.

In pursuing this line of observation other phenomena were detected associated with pain. Thus, early in these investigations my attention was arrested by severe cutaneous hyperalgesia in a patient with gall-stone colic. This led me to search for altered sensations, and I found out that hyperalgesia was not an infrequent symptom. But the question arose, In what tissues was this altered sensation present? I was able to test the reaction to simple stimuli of such organs and tissues as the lungs and pleura, the peritoneum, bowel, liver, kidneys, etc., and I found them actually insensitive to pressure, pinching, and cutting.

Other phenomena which I had to investigate presented themselves, such as the reflexes associated with disturbances of other organs. These reflexes not only affected the muscles of the abdominal wall in a peculiar manner, but also affected the activity of other organs sometimes remote from the original seat of trouble. Of these reflexes, that affecting the contraction of the muscle wall of the abdomen presented most instructive features, especially the curious manner in which limited portions of the muscle would remain contracted. It was almost impossible to differentiate these small hard contractions from tumours in the abdominal cavity, and I have repeatedly seen them mistaken for tumours by experienced physicians and surgeons and the abdomen operated to remove them, when no tumour or swelling was found.

My purpose in mentioning these observations here is to call attention to striking clinical phenomena that are to a great extent ignored or misunderstood, and to state that I have repeatedly found these phenomena present in cases which after a long period showed more definite signs of disease, and that therefore this is one of a class of phenomena where we get evidence of a stage in disease earlier than has hitherto been recognised or realised.

"How often do we see surgeons and physicians diagnosing a tender liver, a tender gall bladder, a tender spleen, a tender colon! How do they demonstrate their diagnosis? By pushing their finger into the abdomen in the regions they imagine these organs to occupy. What are they doing? They are pressing on layers of very sensitive structures, and on other structures which are completely insensitive to such stimulation, and describing the pain, not as caused by the sensitive structures, but as caused by the insensitive. Even in such a common complaint as appendicitis, the nature and the meaning of the most striking phenomena present have never been understood, and, so far, I have come across no description of what structures are tender in the most common sign of all—McBurney's point.

Animals (Transit) Order, 1912—Prosecution in Birmingham.

At Birmingham Police Court on Friday, 2nd inst., William Roberts, Bodanedd, Chwilog, Carnarvonshire, was charged with causing three cows to be carried by railway when their condition was such that they could not be so carried without causing unnecessary suffering. Hugh Evans, Gwernallt, Chwilog, was summoned for unlawfully permitting the animals to be so carried. The summonses were issued in accordance with Article 12 of the Animals (Transit and General) Order of 1912. Mr. Kemp prosecuted on behalf of the Birmingham Corporation; Mr. Philip Baker appeared for Roberts, and Mr. Gerald Rigby for the other defendant.

Mr. Kemp mentioned that this was the first prosecution of its kind that had been instituted in Birmingham, and it was one to which considerable importance was attached. The summonses had been taken out under an order of the Board of Agriculture and Fisheries, which was made in the interests of animals which were carried by rail, and which stated "that no animal shall be permitted by the owner thereof, or his agent, or any person in charge thereof, to be carried by railway if, owing to infirmity, illness, injury, fatigue, or any other cause, it cannot be carried without unnecessary suffering during the intended transit by railway."

On November 15 three cows were loaded and sent by the defendants from Chwilog, Carnarvonshire, to Birmingham. Two days later, on the Monday, Inspector Wiltshire, an inspector under the Diseases of Animals Act in the employ of the Corporation, was present at the Fazeley Street cattle siding of the London and North-Western Railway, and there he saw three animals—two black cows and a red and white one. One black cow was dead and the other was in a dying condition, and the third was in a very weak and exhausted state. The following day Inspector Wiltshire visited Chwilog and saw the defendant Roberts, who admitted that he caused three cows to be sent to Mr. Shorthouse, of Birmingham. He said he was not the owner, but he made the statement: "I sent them to Birmingham, and whatever they make I get paid accordingly. It is better for us to send them to Birmingham and chance them passing than killing them at home and having to bury the carcasses." These was nothing, added Mr. Kemp, to show that the animals were being sent for any other purpose than for the food of man. Evans, when spoken to by the inspector, said: "I noticed they were pretty thin."

Evidence was given by Inspector Wiltshire, who said the animals were infirm, weak, and emaciated, and the bones protruded. The animals belonged to Thomas Williams, Tyddyncethin, and Captain Drage, of Bryndy. Their dead weights were: Red and white cow, 279lb.; black cow (found alive), 215lb.; and the other black cow, 299lb. The weight of a healthy, full-grown Welsh cow was about 448lb.

Mr. Baker (cross-examining): The Welsh breed o cows is very small, is it not?—Yes, but very good.

Witness, in answer to Mr. Rigby, denied that the defendant Evans said he had nothing to do with the cows, or that he had no pecuniary interest in them. "He signed the consignment book," added the witness.

Mr. Rigby: You don't suggest he was to share the profits on these poor things?—No, I don't.

Witness added that 17 pigs were also consigned with the cows to Birmingham.

William Hardwidge, a foreman at the Fazeley Street siding, who produced the consignment note accompanying the cows, said, in reply to Mr. Baker, that the animals were received by another foreman named Godslee. The latter made no report as to their condition.

Mr. Baker; Is it the duty of railway servants to look into the trucks to see if animals are fit to travel?—Yes.

Was any report presented in this case?—No.

Mr. Brennan DeVine, veterinary surgeon in the employ of the Birmingham Corporation, gave particulars of his examination of the animals. When he saw them at the Fazeley Street siding he found the two live cows in an emaciated, depressed, and weak condition. The dead cow was merely skin and bone. Later he made a post-mortem examination of the animals. The red and white cow suffered from generalised tuberculosis, it had very bad tuberculous lungs, and suffered from advanced emaciation. The living black cow was ema-

ciated and dropsical, with pneumonia of the lungs, and suffering from John's disease of the bowels. The dead cow was also emaciated, had pneumonia of the lungs, pleurisy, and was suffering from advanced John's disease of the bowels. The animals could not have been carried to Birmingham without unnecessary suffering. They must have been in poor condition long before the witness saw them.

The defendant, William Roberts, then went into the witness-box. He said the two black cows belonged to Thomas Williams, Tyddyn Cethin, and the red and white to Captain Drage, son-in-law of the Lord Lieutenant of Carnarvonshire. The defendant merely acted as an agent of those gentlemen, he being himself a pig dealer. Before the animals arrived at the station the defendant had not seen them. In fact, a veterinary surgeon at Pwllheli had examined the two black cows a few days before they were consigned. The condition of the cows did not arouse his suspicion in any way.

The defendant Evans stated that the truck in which the cows were sent had been hired by him, and when he arrived at Chwilog on the morning in question he found the cattle being placed in the truck. He took no part in loading, and had no interest in the cows. The defendant took no notice of the condition of the cattle.

The Bench found Evans guilty of a technical offence, and he was fined 10s., without costs. Roberts was fined £10 and costs, or, in default, two months' imprisonment. —*Birmingham Daily Mail*.

Hunting Memorial Fund.

Subscriptions received up to 7 p.m., Jan. 1st, 1914 :

	£	s.	d.
Amount previously acknowledged	139	5	0
Prof. James McCall, Vety. Coll., Glasgow	2	2	6
Prof. John Penberthy, Dean Hall, Newnham	1	1	0
Lieut.-Col. Edw. Taylor, A.V.C., Dilkusha, U.P. Lucknow	1	1	0
Capt. E. S. Gillett, A.V.C., Delhi, India	1	1	0
Prof. O. Charnock Bradley, M.D., Royal (Dick) Vety. College, Edin.	1	1	0
Mr. Henry Holroyd, Blackburn	1	1	0
Lieut. J. J. M. Soutar, A.V.C., Kosti, Sudan	10	0	
Capt. Graham Rees-Mogg, 1st Life Guards, Hyde Park Barracks, w.	1	1	0
Capt. E. Clive Webb, A.V.C., Vety. Dept. Mess, Khartoum,	10	6	
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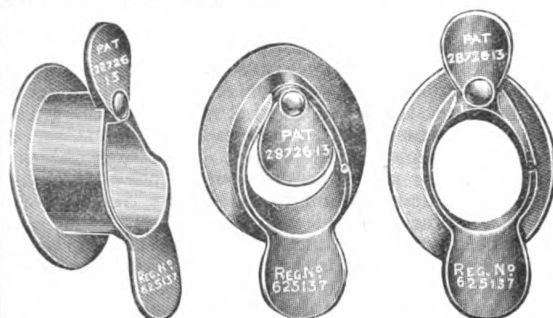
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Cheques endorsed "Hunting Memorial Fund" and crossed "The London, City and Midland Bank, Ltd."

A NEW TRACHEOTOMY TUBE.

The accompanying illustrations show the working principle of a new tracheotomy tube patented by Mr. J. Young, M.R.C.V.S., of Birmingham. The apparatus is solid, and does not take to pieces for insertion, but is simply introduced into the trachea while the movable projection is turned across the lumen of the tube. A half turn with a key then brings the movable projection outside the lumen, and fixes the tube in position. A plug (which must be removed before the movable projection is turned) and a key are sent with each instrument. Undoubtedly the apparatus possesses two great advantages—viz., that it is extremely light (weighing

1½ oz.), and can be inserted, removed, and cleansed very quickly and easily. Experience alone will show whether its mechanical arrangement is durable in practice, and how it compares with other tubes with respect to the production of granulations.



The tube is supplied in nickel, aluminium, and silver, priced respectively at £1 7s. 6d., £1 15s., and £2 7s. 6d. The silver and nickel tubes can be enamelled to the horse's colour at 5/- extra.

DISEASES OF ANIMALS ACTS, 1894 TO 1911.

Return showing the number of Premises on which the existence of TUBERCULOSIS has been notified to the Board of Agriculture and Fisheries during the month of December, 1913.

ENGLAND (Counties) *	ENGLAND (continued) *
Bedford 1 1	Worcester 4 4
Buckingham 1 1	York, East R. 14 14
Cambridge 2 2	„ North R. 6 6
Isle of Ely 1 1	„ West R. 37 39
Chester 37 40	WALES.
Cornwall 12 12	Anglesey 2 2
Cumberland 5 7	Cardigan 1 1
Derby 19 21	Carnarvon 3 3
Devon 7 7	Denbigh 10 10
Dorset 3 4	Flint 5 5
Durham 9 11	Montgomery 2 2
Essex 6 6	SCOTLAND.
Gloucester 6 6	Aberdeen 25 26
Hants 3 3	Argyll 6 6
Hertford 2 2	Ayr 10 10
Huntingdon 1 1	Caithness 3 3
Kent 7 9	Dumbarton 1 1
Lancaster 47 49	Elgin or Moray 2 3
Leicester 2 2	Fife 11 11
Lincoln, Holland 4 4	Forfar 4 4
„ Kesteven 13 13	Haddington 1 1
Lindsey 4 4	Kincardine 1 1
Middlesex 3 3	Kinross 1 1
Monmouth 1 1	Kirkcudbright 9 9
Norfolk 3 4	Lanark 5 5
Northampton 5 5	Linlithgow 2 2
Northumberland 1 2	Midlothian
Notts 3 3	(ex City of Edin.): 3 3
Oxford 2 3	City of Edin. 1 1
Salop 11 11	Perth 4 4
Somerset 6 6	Renfrew 10 10
Stafford 33 36	Ross & Cromarty 2 2
Suffolk 2 2	Selkirk 1 1
Surrey 9 9	Stirling 4 4
Sussex, East 4 4	Wigtown 2 2
„ West 2 2	
Warwick 9 9	
Wilt 33 39	
	TOTALS 511 541

* Number of bovine animals suffering from tuberculosis of the udder, tuberculosis with emaciation, or giving tuberculous milk, in respect of which notice of intention to slaughter has been received.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders.		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.				Out-breaks	Slaughtered.*
Gr. BRITAIN.											
Week ended Jan. 3	20	20			3	18	67	148	9	48	290
Corresponding week in											
1913 ...	11	14			5	15	90	206	15	25	651
1912 ...	19	24			6	11	200	604	20	49	393
1911 ...	10	10			5	8			27	31	316

† Counties affected, animals attacked : London 18.

Board of Agriculture and Fisheries, Jan. 6, 1914

IRELAND.	Week ended Jan. 3	...	...	...	...	...	...	Outbreaks 2	12	1	...
Corresponding Week in											
1913 ...	...	...	...	...	...	...	...	9	21	5	35
1912 ...	1	1	...	...	...	...	...	4	21	3	17
1911 ...	...	...	...	...	...	...	...	1	8	4	85

* These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Jan. 5, 1914

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

REVIEW.

SPECIAL PATHOLOGY AND THERAPEUTICS OF THE DISEASES OF DOMESTIC ANIMALS. By Dr. Franz Hutyra, Professor of Infectious Diseases, and Dr. Josef Marek, Professor of Special Pathology and Therapy; both of the Royal Veterinary College at Budapest. Authorised American Edition, from the Third Revised and Enlarged German Edition. Translated by J. R. Mohler, V.M.D., Chief of the Pathological Division, United States Bureau of Animal Industry, Washington; A. Eichhorn, D.V.S., Senior Bacteriologist, Pathological Division, United States Bureau of Animal Industry; Dr. P. Fischer, State Veterinarian, Columbus, Ohio; and Dr. H. J. Achard, of the Editorial Staff, *American Journal of Clinical Medicine*. Vol. 1. With 10 plates and 198 illustrations in the text. Pp. xvi + 1133. Royal 8vo. Price £1 11s. 6d. net. (Baillière, Tindall & Cox, 8 Henrietta Street, Covent Garden, London).

Our review of Hutyra and Marek's two-volume work has been so tardy in appearing that some explanation is necessary. A review of both volumes had been commenced by the late Mr. Hunting, was laid aside on account of his illness, and overlooked till after his death. This accounts for a delay of some months in the preparation of the review.

As stated above, the present notice concerns only the first volume, which is a very bulky one. It covers infectious diseases, diseases of the blood and of the hæmatopoietic organs, diseases of metabolism, of the spleen, and of the urinary and circulatory organs. The general division of labour has been that Dr. Hutyra wrote upon infectious diseases and Dr. Marek upon organic diseases, each working independently. The first-named author is therefore responsible for the greater part of the present volume.

An English author would probably have published this book under the simple title of "Veterinary Medicine," in place of its present more cumbersome one. Each disease is dealt with successfully as regards its history, distribution, etiology, pathogenesis, lesions, symptoms, diagnosis, and preventive and curative treatment. The work is therefore really an exhaustive treatise upon veterinary medicine, and does not contain much more pathology—as we usually understand the word in England—than every clinician ought to know.

Considering the nature of the subject matter, a translation could hardly have been expected to be up to date on every point. This one is not sometimes, and perhaps the most notable example occurs in connection with John's disease. It is stated on page 639 that all attempts to cultivate John's bacillus and produce specific infection with pure cultures have failed. This was evidently written before the publication of the various European investigations which have put such a new complexion upon the disease within the last two or three years. The text, too, is not free from obvious errors of either translating or proof-reading—for instance, on page 207 we read that cases of distemper in which the nervous symptoms predominate are the "least unfavourable" as regards prognosis. No clinician would agree with this, but the remainder of the sentence and the preceding one show clearly that what is meant is either "most unfavourable" or "least favourable"—which is quite in accord with general experience. Some inequalities and a few errors are inseparable from a work of this description, and their presence need not be dwelt upon. Taking this volume as a whole, it must fairly be pronounced one of the most valuable veterinary works that have ever appeared.

The writing, as a rule, is very clear; and the general arrangement and allotment of space is well judged. The treatment throughout is broad and scientific; opposing views are stated fairly; and the authors, while not afraid of stating their own views, do so without undue dogmatism. Pathological, diagnostic, and therapeutic questions receive almost equal consideration; though the therapeutic portions are often written in a rather condensed form. The tendency is to indicate broad lines of treatment rather than to lay down minute directions. Occasionally classic orthodoxy is consciously abandoned—for instance, Hutyra follows Siedamgrotzsky in the condition usually called contagious equine pneumonia as a pectoral form of influenza, and not a distinct disease. Apart from experimental results, there is certainly much in ordinary clinical experience to support this view.

The longer sections upon the most important diseases are almost invariably admirable; and more than one strikes us as being the best account of the disease it

concerns that we have yet seen. Perhaps the best of all is the masterly article on glanders, which evoked warm admiration from the late Mr. Hunting. The shorter sections upon less important diseases, and the notes upon isolated observations of apparently rare ones, are necessarily not so satisfactory; but we know no comprehensive book on veterinary medicine which is not equally, or more exposed to the same criticism. Taking this volume as a whole so far in veterinary medicine as it goes, we can only call it a long way the fullest and best upon its subject that we know of in any language. No student and no practitioner ought to be without it.

Nearly all the numerous illustrations are good—some very good indeed. The index is useful; but we think that fuller bibliographies, extending beyond the references in the text, would enhance the value of future editions.

W. R. C.

Death of Circus Horses at Olympia.

Four horses which were among the animals performing in the circus at Olympia have been taken seriously ill, and two of the number have died in circumstances which indicate that they were poisoned. The two horses died on Wednesday of last week.

The first animal to show signs of distress, a horse named Royale, owned by an Italian family of riders, refused its food after the performance on Tuesday afternoon, became very restless during the night, and died in the early hours of Wednesday. Shortly before midday Siglavi Alda II., a white stallion ridden by Mme. Baptiste Schreiber in her high school riding act, showed similar signs of distress. The horse was removed to a warm stable and received the greatest attention, but died the same afternoon.

The following statement was made by Mr. J. W. Brownless and Mr. F. Hobday:—"The post-mortem examination upon Mme. Schreiber's horse revealed the most intense inflammation of the stomach and intestines, and we have forwarded the contents to the Royal Veterinary College for analysis and chemical examination. We have every reason to suspect a strong irritant poison being the cause."

Mr. Brownless, veterinary surgeon to the circus at Olympia, told a representative of *The Times* that the horses remained standing until within a few moments of death. He did not think that they suffered much pain. A horse with colic usually lost its head and lashed about it violently. The horses at Olympia had been quite passive throughout. They seemed to droop away. The membranes of their eyes became very dark in colour and their mouths showed excoriations. As the victims did not appear to suffer pain it was improbable that the poison was mineral. He had the two horses which had not died in his own stable. They were progressing favourably, and were now out of danger.

Value of Pure Milk.

Hoar's Dairyman (U.S.A.) in a recent issue, provides a striking example of the advantages of a pure milk supply. About two years ago the United States Naval Academy at Annapolis decided that something must be done to reduce the large amount of sickness among the midshipmen. The paymaster in charge of the Academy stores became convinced that most of the trouble was due to bad milk.

The supply was obtained from an adjacent dairy and was found to be about as bad as it could be and still pass as market milk.

It was decided to equip a dairy and produce their own milk. The venture paid in two ways:—the number of sick days among midshipmen dropped from over 1,700 during the year previous to the establishment of the dairy to a little over 300 the first year and a few less the second year of operation; and the two years' experience has demonstrated that under extremely unfavourable conditions they could produce the milk at a price that compared favourably with the previous contract.

This is one of the most remarkable instances on record showing the effect of pure milk. The 800 and more midshipmen were under absolute food control, and all of the factors were known.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, Jan. 2.

REGULAR FORCES. ARMY VETERINARY CORPS.

Lieut. (on probation) U. W. F. Walker is confirmed in his rank.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

D. R. Crabb to be Lieut. Dated Dec. 5, 1913.

Lieut. J. H. Primmer resigns his commission. Dated Jan. 3.

Personal.

SILVER WEDDING.

LOYD—HUGHES.—On Jan. 7th, 1889, at the Parish Church, Oswestry, by the Rev. T. Redfern, M.A., Vicar of Holy Trinity, J. S. Lloyd to C. M. Hughes, both of Oswestry. Brook Lodge, Fulwood, Sheffield.

OBITUARY

JONATHAN BUNNELL, M.R.C.V.S., Rochdale.

Graduated, Edin: April, 1868.

Mr. Jonathan Bunnell of 57 St. Alban's Street, died under tragic circumstances on Saturday evening last. He had spent the afternoon in company of one of his sons, and returned home about 8.15, it being arranged that his son should call for him later. At 8.30 he was found in a dying condition in his house, having apparently had an attack of the heart. Deceased was 69 years of age, and in his business as a veterinary surgeon had established a good connection. He was a native of Liverpool, and after qualifying in 1868 he started business at Oldham, later removing to Heywood, and ten or twelve years ago coming to Rochdale. He was held in much esteem in the town. Deceased's wife died some years ago, and he leaves a family of six sons.

At the inquest the doctor expressed the opinion that probably the deceased had had a seizure, and sustained the bruises in falling.

The jury recorded a verdict that death was due to natural causes, the Coroner saying it was probable that deceased had been attacked with heart trouble. —*The Rochdale Times*.

ALGERNON LESLIE DAVIES BUNTON, M.R.C.V.S., Betchton Hall, Sandbach. Livrl: July, 1912.

Death occurred on Jan. 4th at Stourbridge, from acute pneumonia, after two days. Aged 31 years.

Communications for the Editor to be addressed 20 Fulham Road, London, S.W.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1332.

JANUARY 17, 1914.

VOL. XXVI.

THE COUNCIL MEETING.

Perhaps the most important feature of last week's Council meeting was the debate upon finance. One member questioned the advisability of so frequently discussing our monetary difficulties in public; but it forces even the most inattentive member of the profession to realise our position—and that position is one that all ought to understand. Little more than eighteen months ago, we sold £1000 worth of Consols. To-day the Treasurer is again faced with a deficit, and a banker's overdraft is being arranged to postpone a further sale; and, when the sale does take place, a great part of its proceeds will be absorbed by the repayment of the overdraft. At present, we can only live by making annual encroachments upon our slender capital; and that cannot go on for more than a few years: we shall not exhaust our capital in two years' time, or in three, so we have still a fair interval before us during which our Bill may be passed.

Perhaps the Bill has a better chance of passing this year than it has yet had, or will have in 1915 or 1916. The coming session may well be less congested than recent ones have been. But after next year's general election—especially, perhaps, if the present Government retains office—we may anticipate a fresh rush of public measures to crowd out private Bills. Failure this year may mean a long postponement, so it will be well for members having influence with M.P.'s to endeavour to use it on behalf of the Bill, as was suggested at the Council meeting.

Little else of moment came before the Council. The chief matters were the Charter, which has finally been adopted with very slight alteration, and the matriculation question, which is to be dealt with once more by a Committee. Both these seem of less immediate importance, compared with the vital question of finance.

THE INTERNATIONAL CONGRESS FUND.

Recently this Fund has made excellent progress. In November the Treasurer was still £700 short of the minimum sum required. He has now obtained the greater portion of this, and a continuance of the present rate of subscribing will soon relieve him from anxiety. Probably there are some members who have deferred subscribing while intending to do so, and their contributions should now go near to completing the amount desired.

THE TRANSMISSION OF FOOT-AND-MOUTH DISEASE FROM ANIMALS TO MAN.

Prof. Cadot, in a communication made to the Academy of Medicine of Paris, reviews the cases of transmission of foot-and-mouth disease to man which have been observed during a period of a century. He confirms the view that it is possible that the affection is conveyed to man by unboiled milk in nearly half of the cases observed, and that direct transmission by contamination of the hands with virulent saliva or the contents of vesicles also occurs. Cases of transmission by whey, butter, or cheese are extremely rare.

Generally speaking, transmission of foot-and-mouth disease to man is far from frequent, and the disease in man is rather rarely a fatal one. Nevertheless, the fact that transmission has been demonstrated justifies the interdiction of the consumption of unpasteurised or unboiled milk. Similarly, elementary precautions on the part of attendants of animals affected with foot-and-mouth are necessary.—(*Annales de Méd. Vét.*)

HYGROMAS IN CATTLE.

Fernand Espony has published (*Le Progrès Agricole*) a lengthy article upon the causes and treatment of these conditions. The most common hygromas in cattle are those of the knee, the point of the sternum, the stifle, and the haunch.

Hygroma of the knee is rather common in cattle. This is explicable by the bovine method of rising from the ground, which involves throwing the whole weight of the body for a moment upon the knee in contact with the ground. From this it follows that the skin of the knees is subjected to frequent scrapings, to rather severe pressure, and sometimes even to blows. If the litter is insufficient, or the ground is unequal or rough, a hygroma develops upon one or both knees. The swelling which constitutes the hygroma is small at first and develops gradually, attaining the size of an egg, of a large fist, or, in some cases, of a child's head. The skin, which at first preserves its normal characteristics, finally thickens and indurates till it conceals the uniform fluctuation which is the most characteristic feature of hygroma.

Hygroma of the knee is not very serious, though in some cases it may considerably impede the movement of the limb. Moreover, if treatment is undertaken, the knee still remains exposed to the same causes which have induced the formation of the hygroma. The author advises that no treatment should be attempted so long as the hygroma remains small, and does not cause lameness. When treatment is decided upon, a variety of methods may

be chosen. Blisters, as a rule, are ineffective. Free incision, or the insertion of a drainage tube or seton may result in cure, but only after a rather long period of treatment, and they necessarily entail suppuration of the opened cavity, which is sometimes the cause of serious complications. Complete extirpation of the hygroma, with removal of a piece of skin and subsequent suturing, is a practicable but a very delicate operation. The best method, in the author's view, is puncturing the hygroma with a fine trocar, aspirating the contained liquid, and finally applying the actual cautery. But even with this method failures and recurrences are frequent.

Hygroma of the point of the sternum may appear in lean animals lying upon scanty litter or irregular ground, or as a consequence of injuring the sternum against the manger when getting up or lying down. If, in the early stages, the animal is placed at liberty in a well littered loose-box, this hygroma will disappear; the application of astringents will aid its absorption. Failing this, the author advises puncture with a fine trocar, aspiration, and the subsequent application of astringents. A large incision is not advisable, for the tissues of the sternal region suppurate easily, and the discharge is very difficult to dry up.

Hygromas of the hind limbs are more common than those upon the fore limbs.

Hygroma of the point of the haunch may occur from violent collisions sustained when emerging from a byre by a narrow door, or from collisions against the wall, which are received by animals stabled at one end of a row of cattle, or from prolonged decubitus. The author recommends the same treatment of puncture and aspiration, followed in this case by an irritant or antiseptic injection (tincture of iodine). The treatment should also include the removal of the cause.

Hygroma of the thigh appears in the neighbourhood of the head of the femur, and results from prolonged decubitus in cases of severe illness. It entails lameness of the limb. The author recommends the repeated application of blisters.

Hygroma of the stifle must not be confounded with arthritis of the stifle. It is due to repeated rubbing, sustained while lying down. As treatment, the author advises puncture and aspiration, with the application of a blister.

Hygroma of the point of the hock corresponds to capped hock of the horse, but has quite a different origin. Most frequently it is due to strokes from the goad, which are often received upon this region. This hygroma suppurates easily, and is accompanied by pain, by intense lameness, and sometimes by tendinous sloughing and gangrene. As the best treatment, the author recommends immobilising the animal upon a suitable and abundant litter, and applying astringents to the region.—*Annales de Méd. Vét.*

ATOXYL IN THE TREATMENT OF MALIGNANT CATARRHAL FEVER OF THE OX.

Wyssmann has published (*Schweizer Archiv.*) an article upon this subject. The treatment of bovine

malignant catarrhal fever has hitherto been unsatisfactory, only producing a good effect in 20 per cent. to 25 per cent. of the cases treated. There has been no lack of agents advocated as specifics, for collargol, iodide of potassium, carbolic acid, creolin, opium, antifebrin, salicylate of sodium, etc., have all successively been recommended and abandoned. Bleeding, so highly extolled by some, has proved inefficacious in the hands of others.

Pericaud, in 1902, reported that he had saved seven cases out of eleven by subcutaneous injections of physiological salt solution. Moussu and others have recommended the same treatment at a later date. Wyssmann, reasoning upon the hypothesis that the disease is a bacterial toxæmia, now advocates disinfection of the blood by means of subcutaneous injections of atoxyl. According to Blumenthal, this agent causes the production of arsenical acids in the blood.

Wyssmann advises preceding the injection of atoxyl by a copious bleeding. He believes that this measure relieves the organism of a considerable quantity of diseased blood, that it favours the rapid regeneration of normal blood, and that it hastens the absorption of the atoxyl.

The technique of the injection is simple. A bleeding trocar of Dieckerhoff's pattern, or the injection needle of a Pravaz syringe, is inserted through the skin of the side of the neck. A caoutchouc tube about five feet long is fitted to the trocar by one of its ends, while the other end bears a glass funnel. By this apparatus two to three litres of a warm 7 per cent. salt solution, into which 10c.c. to 15c.c. of 10 per cent. aqueous solution of atoxyl has been mixed, shortly before the operation, is introduced subcutaneously. A gentle massage of the region rapidly causes the diffusion and absorption of the liquid. The puncture-wound is covered by powdered iodoform or some similar drug.

Wyssmann has obtained very encouraging results from this treatment, and now advocates its extended trial with a view to confirming its efficacy.—(*Annales de Méd. Vét.*)

TUBERCULOSIS IN THE PIG CAUSED BY THE AVIAN BACILLUS.

O. Bang reports (*Maanedskrift for Dyrlæger*) some observations upon this subject. On a farm where there were some tuberculous fowls, numerous cases of tuberculosis were found among the young pigs. The infection, however, was confined to the lymphatic glands of the head and intestine, and had no tendency to invade other organs.

Four fowls and two rabbits were inoculated with tuberculous material taken from the pigs, and all contracted the disease. Three guinea-pigs were then inoculated. These latter showed no lesion at the end of three months, with the exception of one which presented some small tuberculous centres in the lymphatic glands of the flank. The bacillary strain which was isolated from the lesions of the infected fowls showed the classic cultural characters of the avian type of tubercle bacillus.

A second case of transmission from the fowl to the pig has been registered, and Bang also quotes a

case of acute tuberculous pneumonia in the pig, due to the avian bacillus,

Upon both the farms mentioned by Bang, the number of pigs infected was rather large—33 per cent and 66 per cent. respectively.

Two pigs infected with avian tuberculosis were subjected to the intradermal tuberculin test with tuberculin of human and avian origin. Both gave a reaction, but the avian tuberculin acted the most energetically.—(*Annales de Méd. Vét.*)

SUCCESSFUL AMPUTATION OF THE EVERTED BLADDER IN A MARE.

Prof. Coquot records (*Recueil de Méd. Vét.*) the case of a mare which, in consequence of a parturition, suffered from a complete eversion of the bladder. All attempts at reduction failed. Finally, the extremities of the ureters were dissected and fixed by a suture to the internal aspect of the vagina, and the bladder, after an elastic ligature had been placed upon its neck, was removed. The mare recovered in less than a month. The urine was expelled almost every quarter of an hour, the vagina thus playing the part of a reservoir, which was emptied by reflex action produced by stimulation of the vulvar mucous membrane.—*Annales de Méd. Vét.*

[I am not aware that this measure of fixing the ureters into the vagina has been attempted before in veterinary practice. The method of amputating the bladder usually described is to apply the ligature on the fundus side of the ureteral openings, leaving the ureters in position. Unfortunately no further details of the exact procedure followed in this case are available.—TRANSL.]

Royal College of Veterinary Surgeons.

QUARTERLY MEETING OF COUNCIL.

A Quarterly meeting of Council was held at the College, 10 Red Lion Square, London, W.C., on Friday 9th January, 1914. Mr. J. H. Carter, President, occupied the chair, and the following members were present: Col. Sir Francis Duck, K.C.B.; Maj.-General Pringle; Profs. Bradley, Sir John McFadyean, and Mettam; Messrs. Abson, Banham, Barrett, Burt, Clarkson, Garnett, Hobday, Lawson, Mason, McCall, McKinna, Mulvey, Packman, Price, Share-Jones, Shipley, Slocock, Sir Stewart Stockman, Messrs. Sumner, Trigger and Wharam; Mr. George Thatcher, Solicitor; and Mr. Fred Bullock, Secretary.

MINUTES.

The minutes of the last meeting, which had been printed and circulated, were taken as read and confirmed.

The PRESIDENT: Gentlemen, previous to commencing the business of the Council, may I express my best wishes to every member of this Council for a happy and prosperous year. (Cries of "Same to you, sir.")

APOLOGIES FOR ABSENCE.

The SECRETARY announced that the following members had sent letters regretting their inability to attend

the meeting: Maj.-General Thomson, Principal McCall, and Messrs. Dunstan and Lloyd.

OBITUARY.

The SECRETARY read the Obituary List.

DEATH OF MR. WM. HUNTING.

The PRESIDENT: Gentlemen, as President it is my painful duty to propose that a vote of condolence be sent to the relatives of the late Mr. Hunting, our worthy colleague, who served as President of this College, who was also one of our examiners, a gentleman whom I am sure we all greatly respected, and whom the profession mourns. He was a gentleman who travelled far and wide in the interests of veterinary work, at very great expense to himself and very little monetary reward. He was a gentleman who was respected and loved by every one of the students whom he examined. I had the pleasure of his acquaintance for something like a quarter of a century, and he was a gentleman to whom I felt very much attached. He was loved by every one of us, and we greatly deplore his death.

Mr. MULVEY: Mr. President and gentlemen, I second the proposal that a vote of condolence be sent to the family of the late Mr. Hunting. We all knew him. He was held in the very highest respect by every member of this profession. He did his duty to the profession whenever called upon, and his memory will be green as long as the veterinary profession lasts. (Hear, hear.)

Mr. TRIGGER: Mr. President and gentlemen, as one who had known the late Mr. Hunting I think longer than anybody in this room, and probably longer than most members of the profession—because when I was a boy of 16 or 17 I was an articled pupil in the same place where Mr. Hunting was an assistant—I should like to support the proposition. It is a proud and a very pleasant recollection to me that I had 40 years of unbroken friendship with Mr. Hunting. To know the man was to esteem him; to see the way in which his somewhat advanced views in early life matured as he went on; to see the grasp he took of professional matters was to admire the man, and to feel he was an honour to this or to any other profession. Personally, I may say I had a great affection for the late Mr. Hunting. Friends from boyhood are not easily to be replaced. Everything has been said about Mr. Hunting's professional attainments before our Council met. I have read the tributes that have been paid to the late Mr. Hunting, and I have been deeply touched by the kind sentiments that have been expressed. Everyone knows that a wave of regret has gone throughout the profession at his loss. (Hear, hear.) I can only say that I endorse in the highest possible manner the encomiums that have been passed on the late Mr. Hunting. I grieve at his loss, and the profession grieves too. He cannot be replaced, but, as Mr. Mulvey has very truly said, his memory will be green as long as the veterinary profession stands; his memory will be green when very many of us have been forgotten. I wish to add my tribute to the memory of the late Mr. Hunting.

The resolution was passed in silence, all present up-standing.

Mr. MULVEY: Among the list of names that has been read out of those who have passed away since our last meeting is that of a very respected member of the profession, who for some time acted as a member of this Council and as an Examiner; I allude to Mr. William Wilson, of Berkhamsted. He was a genial and kindly man. Many of us knew him intimately, and he served his profession well. I move that a vote of condolence be sent also to his wife and family.

Mr. TRIGGER: I had the privilege of sitting on this Council while Mr. Wilson was a Vice-President when I first came to the Council. I endorse all that Mr.

Mulvey has said, and second the resolution that a vote of condolence be sent to his family expressing our regret at his loss and our appreciation of his services to the profession.

The resolution was carried in silence, all present up-standing.

ADMISSIONS TO MEMBERSHIP.

The SECRETARY read the following list of members admitted to the College since the previous quarterly meeting.

Dublin College. Messrs. Arthur Ernest Brandon, John Reynolds Ellison, St. John Charles Purcell MacFarlan, Edward Spread Mulcahy-Morgan, Daniel John O'Byrne, Henry Mervyn Reid, and James Aloysius Shannon.

Glasgow College. Messrs. James MacLaren Dawson, James McInnes Galloway, and H. McD. Paul.

Edinburgh College. Messrs. A. Whitelaw Carter, John Brodie Russell, and Edward Sewell.

Liverpool College. Mr. Robert Langford Lewis.

London College. Messrs. Arthur Heane Adams, William Percival Sheridan Edwards, Charles Emerson Huston, Guillaume Francois Marais, William Henry Priston, Kenneth Hannam Soutar, Graham Williamson, and Harry Stewart Wright.

CORRESPONDENCE.

The SECRETARY announced that he had received a letter from Mr. E. White Wallis, Secretary of the Royal Sanitary Institute, asking the College to send a delegate to the Congress to be held at Blackpool from July 6th to 11th, 1914, the subscription being one guinea. There would be a Conference of Veterinary Inspectors in connection with the Congress.

The PRESIDENT: Do you wish to send a representative of the Council to this Congress?

Mr. SUMNER: I should think our President might go.

Prof. METTAM: I propose that the letter lie on the table.

Mr. TRIGGER seconded the motion, which was carried.

The SECRETARY: At the last meeting of Council I brought up a request from the Secretary of the Sixth International Dairy Congress at Berne, that we should send a delegate to the Congress next June, the fee being 20 marks. Section 1 of the Congress, Hygiene, deals with "Conditions for the Sanitary Inspection of Milk by Veterinary Doctors," and Section 2 "Is the Systematic Breeding of Cows with a view to the Largest Production of Milk detrimental to their Health and Vitality?" It was moved at the last meeting that this letter be brought forward again at the following meeting of Council.

Prof. METTAM: I beg to propose that no action be taken.

Mr. LAWSON: I second that.

The resolution was carried.

The SECRETARY read the following letter from the Privy Council, dated 14th November, 1913:—"Sir, I am directed by the Lord President of the Council to transmit to you, to be laid before the Council of the Royal College of Veterinary Surgeons, the accompanying copy of a decree recently issued by the Swiss Federal Council, modifying Article 106 of the Federal Regulations for the examination of physicians, dentists, chemists, and veterinary surgeons.—I am, sir, your obedient servant, Almeric Fitz Roy." The minute of the Federal Council, in French, is annexed. It is to the effect that after the first day of November, 1913, practitioners who wish to practise their profession of doctors, dentists, chemists, or veterinary surgeons, in the Federal district must take all the Federal examinations. Those, however, who possess a diploma giving them a right to practise may, by that diploma, obtain a concession on some of the examinations.

Prof. METTAM: I propose that the communication be acknowledged with thanks.

Mr. McKINNA: I second that.

The resolution was put and carried.

The SECRETARY read the following letter from the Education Department of the West Riding County Council, dated December, 1913:—"Qualifying Examinations. Dear Sir,—The West Riding Education Committee have recently had under consideration the desirability of encouraging holders of their scholarships and others to take the fullest possible advantage of the opportunities for further education provided in the secondary schools of the West Riding. To derive any substantial benefit from a secondary school course a boy should attend continuously for at least four years, and the main course is planned to cover that period, commencing at 12. The average length of secondary school life for boys, however, is found to be only 2.5 years. It is thought that one cause of this unsatisfactory circumstance is the low standard of examination still accepted by certain bodies as a qualification for registration or for exemption from a preliminary professional examination. In a number of cases the junior local examinations of the Universities of Oxford and Cambridge, and occasionally the lower certificate examination of the Oxford and Cambridge Schools Examination Board, are accepted as qualifying candidates to commence a course of professional study. The preparation of secondary school pupils for external examinations of this low grade interrupts seriously the progress of school work upon really educational lines. Also a course of professional training cannot, as a rule, be commenced until at least 16 years of age, and in the view of my Committee if a boy of good intelligence has had the advantage of instruction in a secondary school for four years, or until the age of 16, he should have no difficulty in passing an examination of at least University Senior Local, if not matriculation, standard. This being so, it is clearly undesirable that his education should be interrupted to enable him to take an examination of lower grade. No doubt the various professional bodies themselves desire that the standard of their test of a candidate's general education should not be unduly low. My Committee would therefore be glad to see success in any examination of lower than matriculation or "senior local" grade omitted from the list of qualifications accepted by professional bodies. I shall be glad to have in due course your observations on the matter. If you wish for more copies of this circular I shall be pleased to supply them.—Yours faithfully, J. H. Hallam. To Secretaries of Professional Bodies."

Mr. MULVEY: I should like to say that that letter has already been before the Examination Committee, and I propose to read a report on the subject later in the meeting.

The PRESIDENT: It is a most important letter.

FINANCE COMMITTEE.

Mr. LAWSON read the following Report of a meeting of the Finance Committee held on the 9th January, 1914:—

Financial Statement. The Treasurer submitted his Financial Statement for the quarter, showing liabilities amounting to £906 2s. 5d., and a deficit of £35 8s. 6d.

It was resolved (a) That the Financial Statement be approved, and that the Treasurer be ordered to pay liabilities shown, together with monthly salaries, insurance, petty cash, gas, electric light. (b) That the Treasurer be authorised to arrange for an overdraft at the Bank not exceeding £500.

Mr. LAWSON: I beg to propose that the Report be adopted.

Mr. McKINNA: I second that.

Mr. MULVEY: Before you adopt that Report, I hope you are not going to put it on one side without some

consideration. The statement is that we are £35 to the bad, and that I shall be called upon to pay a sum of between £120 and £130 before this Council meets again. You will notice also the Committee recommends that an overdraft be applied for up to £500, for which you will have to pay broadly about 6 per cent. How long is this to go on? You will have to meet this in some way. The value of our Consols now is somewhere about £4000.

Mr. TRIGGER: It was £7000.

Mr. MULVEY: It was more, but now they are nominally worth about £4000. You are putting forward an application for a new Charter which, in round figures, will cost us something like £200 or £300 I think.

Mr. THATCHER: Somewhere about that.

Mr. MULVEY: You keep on spending money and your income is getting less. We hear very little about the new Bill, and I am afraid there is very little prospect of our obtaining it in the near future. This matter must be very seriously considered, and I hope the members of this Council will be able to show us some way out of the difficulty.

Mr. LAWSON: The Committee has recommended a certain course—that Mr. Mulvey can arrange for an overdraft to the extent of £500. I presume that will take us on to March at all events, when we meet again.

Mr. MULVEY: Yes.

Mr. LAWSON: I hope he will bring this matter forward again, because I quite condole with Mr. Mulvey in the way in which he has placed the position before the Council. At the same time we have to pay our way. We may ultimately have to sell some more Consols, but I think until March we shall have plenty of money in hand with an overdraft to the extent of £500.

Mr. SHIPLEY: Unfortunately I was not able to attend the meeting this morning, and I should therefore like to ask the Chairman of the Finance Committee what will be our position after March. If we have got to pay interest on the overdraft at the Bank and then have to sell out our stock again we shall be in a worse muddle than ever. Have you any estimate as to what our position will be after the next examinations?

Mr. MULVEY: The next examinations will not take place until July, and the profit, if we base it on the lines of the last examination, will be somewhere about £290. We made £292 profit last July, but we shall have spent all that long enough before we get to July. You must remember, though, that the net loss on the December examination was £99 18s. 4d., and the examinations are our only source of income.

Mr. SHARE-JONES: Do we understand that the Finance Committee are staking all their cards on this Bill?

Mr. MULVEY: Yes.

Mr. SHARE-JONES: Is it not the function of the Finance Committee to consider some other means of raising money? It is plain to a man with one eye the way in which matters are drifting financially now, but I regard it as the function of the Finance Committee of any body to consider ways and means of raising money, apart from placing entire reliance upon a Bill of which we have been told here this afternoon that there is very little probability of its going through in the near future.

The PRESIDENT: I understood the Finance Committee thought this was the best way.

Mr. TRIGGER: As a member of the Finance Committee, I should like to say that the decision of the whole Council was that our only possible chance was this Bill. I quite agree with Mr. Share-Jones that it is the duty of the Committee to consider the position of the finances of the College, and it is the duty of every member of the Council to consider the position.

Mr. SHARE-JONES: Quite so.

Mr. TRIGGER: It is the duty of the profession to consider the position also, and do all they possibly can to get us this Bill, because there is no question that the position is a bad one at the present moment. We are simply selling our stock and living on our capital, and when that has gone we are bankrupt—that is exactly what it amounts to. In face of this we are spending a great deal more money than we ought to do on the Registration Committee. Then there is another thing—we are going for a new Charter. I entirely agree in every way with the new Charter, but if we are going to be bankrupt in two years' time what is the use of getting a new Charter? It will be waste paper then, and have to be burned.

Mr. ABSON: Who says we shall be bankrupt in two years' time?

Mr. TRIGGER: If the Chairman of the Parliamentary Committee can inspire us with a little more hope, and say that the Bill is in train, then I say, "Go on with your Charter," but at the present time what we ought to do is to put our foot down and spend nothing until we see whether we get this Bill or not. I do not want to throw cold water on the Charter in the slightest, I agree with every word of it, but I think it is premature to go on with it. I think we ought to get our Bill before we get our Charter, because about £300 is going to be spent there. But I do not want to be a drag on the wheel, I do not want to keep the profession back. I quite agree with the new Charter, but I say we have not got the money to pay for it. We are going to pay 5½ or 6 per cent. on the overdraft, and as soon as we have sold our Consols we are bankrupt. That is exactly how we stand. If the profession cannot put their shoulders to the wheel and push the Bill through by means of their local Members of Parliament, this Council cannot carry it through themselves.

Sir JOHN M'FADYEAN: I do not wish to anticipate a discussion which will arise later on a motion at the special meeting, and I also do not want to be sarcastic, but I could not help feeling the utmost surprise when the author of the resolution, which, in my opinion, would precipitate the bankruptcy of this Institution, invites the Finance Committee to advise how that result is to be averted. I refer to the proposal that we should raise the standard of the preliminary examination, and most certainly as a result reduce the number of students by 50 per cent.

Mr. MULVEY: Question.

Mr. SHARE-JONES: That remark has a direct application to myself. The point which is agitating my mind is this, and I should like to know whether the Finance Committee, has considered it. I do not happen to be on the Finance Committee, but on looking through our financial statement it seems to me that the keynote to the whole problem is the question of the examinations. (Hear, hear.) To me again, as an ordinary observer if you like, the solution to the problem is a common centre of examination. I am not pledging myself to the proposal in one way or another, but I should like to know whether the Finance Committee has considered that—the question of a common centre of examination.

Mr. TRIGGER: We cannot do it. We are obliged to hold them at each place.

The PRESIDENT: It would be a very great saving if it could be done.

Mr. LAWSON: I should like to say that the Finance Committee considered the examination question this morning—as to whether we could reduce the expenses in any shape or form. It was fully discussed—I think for three-quarters of an hour—but in the end we apparently could do nothing at present because the examiners are elected at all events for three years, they are elected at stated fees, and at the moment we cannot do anything. But we discussed this matter between ourselves this morning. I believe Mr. Garnett suggests that

there is a possibility of the Bill going through this Session, but Mr. Mulvey is rather of the opposite opinion. Therefore we are divided. If the Bill passes by 1915 we shall get some money in then, but as to getting it from the profession I am afraid we shall not be able to do so.

Mr. McKINNA: I do not think the open Council is the place to discuss so frequently the condition of the College financially. I think we ought to wait at least a little while before saying anything about the finances of the College. I have every confidence, as far as I have studied the thing, that we will surely within another two years get this Bill which we are all longing for, and which I believe the profession generally supports. I do not look upon it that bankruptcy stares us in the face, I am more optimistic than that, and I feel sure when the time does come the profession will rise to its needs.

Mr. BARRETT: What sum of money do you think would be saved if there was one common centre of examinations for England and one for Ireland? (A Voice: We cannot do it.) The point I desired to make was this, that perhaps it might be desirable to embody that condition in our new Charter.

Mr. THATCHER: It is already settled by the Act. Section 4 of the Act says there must be an examination in each country.

Mr. BARRETT: And that could not be modified by the Charter?

Mr. THATCHER: Oh no.

Mr. MULVEY: I should like to say, in reference to what Mr. Barrett has asked, that we should save a considerable sum of money if the examinations were carried out in accordance with the Act, that is to say, that there shall be one examination in England, Scotland, and Ireland. That is all that we are bound to carry out. At present we carry out two examinations in Scotland, two in England, and one in Ireland. If we carried out one examination only in each country it would save a considerable amount in travelling expenses and in fees. I could not tell you exactly how much in round figures.

Mr. BARRETT: Just one thing occurs to me with regard to this financial statement, which I think is most serious. I agree with Mr. Mulvey that we are drifting towards bankruptcy, and I wondered if anything could be done if you, sir, together with certain other members were to approach the Board of Agriculture—if the President of the Board of Agriculture would take up the question for us. I do not know whether any representations have been made.

Sir JOHN M'FADYEAN: Yes, that has been done.

Mr. BARRETT: It occurs to me it might be done. Could those representations be repeated?

Mr. MULVEY: It has been done.

Mr. BARRETT: May I ask if it has been recently done?

Sir JOHN M'FADYEAN: Yes.

Mr. BARRETT: Do you think any good would result if you approached them again?

Sir JOHN M'FADYEAN: May I be allowed, as the Chairman of the Committee in charge of the Bill, to say that we are leaving no stone unturned, there or anywhere else, that holds out any hope. If I may be allowed to refer to this proposal, that there should be one common centre for the examinations for the whole of the United Kingdom and Ireland, I merely wish to say that in my strong opinion that is not a practical proposal. It does not seem to me to be a reasonable proposal that students should be brought from Ireland and Scotland to London or to any other centre in England. You could not find any parallel to that in this country in the case of examining bodies entrusted with powers like ours, and I have not the least doubt that if we made any such proposal the result would be a claim from Ireland

and from Scotland that the time had now arrived for examining their own students, and that is a most serious danger we must be careful to avoid. (Hear, hear).

The PRESIDENT: If there is no further discussion on the matter, I will put the motion that the report of the Finance Committee be received and adopted.

The resolution was put and carried unanimously.

REGISTRATION COMMITTEE.

The SECRETARY read the report of a meeting of the Registration Committee held on Thursday, Jan. 8th, 1914, at which 24 members of the Council were present. Nineteen cases were considered by the Committee. The Solicitor submitted correspondence he had had with the Local Government Board for Scotland in the case of Leighton, and it was resolved that a further letter of appeal be sent to the Local Government Board, such letter to be submitted in the first instance for approval to a Sub-committee consisting of the President, Sir John M'Fadyean, and Mr. Mulvey.

It was decided that two members should be called upon to appear at the next meeting of the Committee to show cause why their names should not be removed from the Register, the charge in one case referring to the employment of an unqualified assistant.

The Solicitor reported that he had been in communication with the Registrar of Joint Stock Companies in regard to the registration of a company entitled "Veterinary Surgeon Cooke, Ltd." On behalf of the College he had lodged an objection against such a title being registered, and the application had been withdrawn. It was resolved that the action of the Solicitor be approved.

Some cases were ordered to stand over, while others were struck out, and in three cases it was recommended that prosecutions be instituted. The Secretary or Solicitor was instructed with regard to the procedure to be adopted in the remaining cases.

A petition was received from Mr. G. C. Hill, whose name was removed from the Register in 1908 under Section 6 of the Veterinary Surgeons' Act, applying for his name to be restored to the Register of Veterinary Surgeons. It was resolved that the consideration of this application be deferred until the next meeting, the Secretary being instructed in the meantime to obtain further information as to the character and conduct of Mr. Hill during the past two years.

The PRESIDENT: I move that the report of the Registration Committee be received and adopted.

Mr. ABSON: I second that.

The PRESIDENT: Are there any remarks to be made on this report?

Mr. BARRETT: I should like to refer for one moment to the case of Hill. I am aware that this matter received careful consideration by the Committee yesterday, but it did occur to me that there was some confusion in the minds of certain gentlemen present as to what course should be adopted. My friend Professor McCall really intended to move that his name be restored to the Register forthwith, at least after to-day's meeting, but he did not put that specific resolution, and accordingly I think the Council may not have been quite clear as to the decision at which it arrived. You all remember this case. I do not desire to minimise it at all. It was a very serious case—the examination of a certain hackney gelding with regard to insurance, and so on. But what I feel myself is—and I speak only for myself—that the Committee is, in my opinion, acting with undue severity in this case. Hill was a man who had practised for many years in Glasgow, and I think until this lapse he was unquestionably a man of good character, and was respected as a private citizen and as a member of this profession. No doubt

he made a very great mistake : no doubt he was guilty of fraud.

Mr. TRIGGER : I should like to suggest that if we are going to re-open this case we should resolve ourselves into Committee. (Hear, hear). I do not think it is desirable to re-open it ; I put that to Mr. Barrett. But if we are going to re-open it I shall move that we go into Committee.

Prof. METTAM : I second that.

Mr. SHIPLEY : I move that we do not go into Committee. The case has been discussed over and over again, and Mr. Barrett knows nothing whatever about it. He happened to come in yesterday and heard a few words going on, and now he wants to upset all we have done during the last two or three years. There is nothing for us to consider further.

Mr. TRIGGER : If we do not go into Committee you may hold, sir, that Mr. Barrett is quite in order in discussing the matter, and that would make a difficulty. If Mr. Barrett wishes to discuss the matter I shall certainly move that we go into Committee, in fact I have done so, and it is seconded.

The PRESIDENT : And Mr. Shipley I understand has moved that we do not go into Committee.

Mr. SHIPLEY : I move that the question be not reopened.

Mr. MULVEY : I second that.

Mr. BARRETT : On a point of order, sir, I submit that is an unprecedented motion. A member of this Council has an absolute right to express his opinion upon a question of this kind, and upon any question concerning the profession. He has an absolute right to bring the matter before the meeting, and I suggest to you that to put the motion which has been proposed by Mr. Shipley, and seconded by Mr. Mulvey is carrying the thing to the extreme of ridiculousness.

Mr. GARNETT : I would point out to Mr. Barrett, sir, with your leave, that Mr. Barrett is a member of the Committee. He is one of those who strongly advocated that the whole of the Council should constitute the Registration Committee, for the very purpose of thoroughly going into these cases and discussing them freely and openly. I consider that when that has been done, although no doubt he has a technical right to do it, still it is to my mind not in good taste or in the interests of his friends that the case should be re-opened and fully discussed in public.

Sir JOHN M'FADYEAN : May I suggest that we shall probably lose more time in discussing whether Mr. Barrett should be heard than if you put the resolution that we go into Committee. I suggest that you should put that motion now.

The PRESIDENT : I will put the motion that has been proposed and seconded, that the Council resolves itself into Committee.

The resolution was then put and carried.

The Council then went into Committee. On resuming its public sitting.

The PRESIDENT : I beg to move that the report of the Registration Committee be adopted.

Mr. ABSON : I second that.

The resolution was adopted.

Mr. MULVEY : I move that authority be given to the Solicitor to prosecute in the cases mentioned in the report, and that the Seal of the College be affixed to the documents.

Mr. MASON : I second that.

The resolution was carried unanimously.

PRELIMINARY EXAMINATION COMMITTEE.

Mr. MULVEY read the following report of a meeting of the Preliminary Examination Committee held on Thursday, Jan. 8th, 1914—

Preliminary Educational Examinations. A revised list of Preliminary Educational Examinations was con-

sidered, and it was resolved to recommend (a) That the present regulations be continued in force until December, 1915 ; (b) That the whole matter of the Preliminary Educational Examinations be remitted to the Committee for consideration and report.

Correspondence. A circular letter with regard to qualifying examinations was received from the Education Department of the West Riding County Council, urging that lower educational examinations should not be recognised as qualifying candidates to commence a course of professional study. The circular was, in general, approved, and ordered to be submitted to the Council.

Mr. MULVEY : I move the reception and adoption of the report.

Mr. TRIGGER : And the circular as approved.

Sir JOHN M'FADYEAN : May I ask what the endorsement of this Council to that proposal means? Does it mean that we pledge ourselves to follow the advice which is given there—that we cease to recognise a number of the educational certificates that are at present suitable ones? I take it that is what is meant by it, and if so I oppose it, because it is contrary to another recommendation which is contained in this report of the Committee. The Council must not decide a question like that off hand. I beg to move that that particular paragraph be deleted, and that we substitute for it, that we decide the communication be acknowledged with thanks.

Mr. MULVEY : I should like to point out that the Committee simply expressed a general approval of the terms of the circular. It was not their intention to carry it any further, in view of the fact that the whole of our preliminary educational work is to be considered at a future meeting. It was simply regarded as the expression of a pious opinion.

Mr. TRIGGER : I shall certainly second Sir John M'Fadyean's resolution, because I think this wording does commit us more or less.

Sir JOHN M'FADYEAN : May I suggest that the phraseology be altered, and that we say we are in sympathy with the suggestion?

Mr. MCKINNA : That is all it means.

Mr. MULVEY : It simply says that "The circular was, in general, approved." What more do you want?

Sir JOHN M'FADYEAN : After the Chairman's explanation I withdraw.

The motion for the adoption of the report was then put and carried unanimously.

EXAMINATION COMMITTEE.

Mr. MULVEY read the following report of a meeting of the Examination Committee held on Thursday, January 8th, 1914 :—

Reports on December Examinations. The reports of the Chairman of the Board of Examiners, the local secretaries, and delegates were read and approved.

Educational Certificates. Educational certificates numbered 1372 to 1418 were submitted and approved.

Correspondence. (a) A letter (19/12/13) was received from the University of Bristol with regard to the recognition of the School's Certificate Examination, and it was resolved that the letter be referred to the Preliminary Education Committee.

(b) A medical certificate from Mr. James Mair, who was unable, through illness, to attend the examination at Glasgow in July, 1913, was submitted, and the Secretary reported that he had allowed the candidate to be admitted to the December examination without further payment. It was resolved that the action of the Secretary be approved.

(c) A medical certificate was submitted by Mr. K. S. Simpson, who was unable to attend the December Class C examination in London owing to illness. It was re-

solved that the fee paid be held over until the July examination.

Vacancies in Board of Examiners. The Secretary reported that, owing to the death of Mr. W. Hunting, vacancies were caused in the Board of Examiners for the Membership Degree in the subject of Veterinary Surgery and Obstetrics, Class D, and also in the Board of Examiners for the Fellowship Degree in the subject of Hygiene and Sanitary Science. It was resolved that these vacancies be advertised, and the election of examiners made at the next meeting of Council.

On the motion of Mr. Mulvey, seconded by Mr. Packman, the report was unanimously adopted.

PARLIAMENTARY AND GENERAL PURPOSES COMMITTEE.

Mr. GARNETT read the following report of a meeting of the Parliamentary and General Purposes Committee, held on Thursday, January 8th, 1914 :

Parliamentary Bills. The following private Bills were submitted: Chesterfield Corporation, Preston Corporation, Sheffield Corporation.

The Chesterfield and Preston Corporation Bills contain clauses with regard to the power to exclude old and diseased animals from markets and fairs, which were considered to be entirely satisfactory.

Admission of Women. A report was submitted by the Solicitor with regard to the admission of women to the examinations of the Royal College of Veterinary Surgeons, in which the following opinion was expressed :

1. That as up to the time of the granting of the Charter of 1844, and the passing of the Act of 1881, the students at the Colleges referred to were male students, only such persons were the persons intended to be included.

2. That in addition to, and independent of this, it would be contrary to long usage and precedent to admit women to the veterinary profession.

New Supplemental Charter. A draft of the new Supplemental Charter was submitted and considered.

On Section 6, Mr. Barrett proposed, and Mr. Share-Jones seconded, that in place of the word "teachers" in line 2, the following words be introduced: "teaching institutions and extra-mural instructors in the subjects required for examination for the said diploma." On being put to the meeting this amendment was declared lost.

On the motion of Sir John M'Fadyean, it was resolved to introduce the words "or examinations" after the word "examination" in line 3, paragraph 3, page 4.

It was then resolved that the draft Supplemental Charter, as amended, be recommended to the Council for approval.

Cleaning of Building. It was resolved that this matter be deferred until the next meeting of Committee.

Correspondence. A letter was received from Mr. J. M. Sinclair, containing a copy of a resolution passed at a meeting of veterinary surgeons held at Bulawayo on April 14th, 1913, with reference to the report of the Departmental Committee on the Public Veterinary Services.

The Secretary was instructed to reply that as the Departmental Committee had already reported, the Committee regrets that it cannot take any action on the resolution submitted.

Mr. GARNETT: I propose that the report be adopted.

Mr. SHARE-JONES: I second that.

Mr. SHIPLEY: I should like to raise a question on the Supplemental Charter, where I think a little alteration or addition is perhaps advisable. I should like to ask whether, in regard to the appointment of Vice-presidents, the opportunity might not be taken to indicate who is the senior Vice-president. I believe on previous occasions we have had a little difficulty about

that. Then dealing with another matter, I cannot quite see why it should be necessary to say that a member of the Royal College of Veterinary Surgeons shall have practised his profession for two years before he can take the Fellowship. Assuming a veterinary surgeon after taking his Degree of Membership of the College has the time and inclination to study, why should he be debarred from taking the Fellowship? I think it is quite a reasonable thing that that proviso should be left out. I think we should encourage our members to take the other degree, and should not place any bar in the way of their doing so. I cannot see what good it does, because we know that certain men have gone straight away and acted as teachers in some special subject, and have not what we call practically followed their profession, although they may have done so in some special branch of it.

Sir JOHN M'FADYEAN: That question was raised, and it was admitted by all of us that a member of the profession who spends his time in teaching is practising.

Mr. SHIPLEY: It does not necessarily say so. I am quite in agreement with it, but I think it ought to be made more clear.

Mr. GARNETT: I should like to be allowed to answer Mr. Shipley's first point with respect to the Vice-presidents. I think it is generally felt that some discretion must be left in the hands of the Council for the time being. You can depend upon them to take the proper course of action. After all, they are the body appointing the two Vice-presidents, and they will see that the men who they choose should be the proper Vice-presidents. I do not think it is advisable to tie their hands in the way Mr. Shipley suggests.

The PRESIDENT: I take it it would naturally follow that the one with the longest service would be the senior Vice-president.

Mr. GARNETT: Yes, but I do not want to tie the hands of the Council in any way.

The resolution for the adoption of the report was then put and carried unanimously.

Mr. GARNETT: I now move, sir, with your permission, that the Seal of the College be affixed to the petition as adopted by this Council. I understand that that is necessary.

Mr. MASON: I second that.

The resolution was put and carried unanimously.

ANNUAL FEE COMMITTEE.

Sir JOHN M'FADYEAN read the following report of a meeting of the Annual Fee Committee held on Thursday, January 8th, 1914:—"Veterinary Surgeons Act Amendment Bill. The Solicitor reported that Sir Frederick Low had agreed that the Bill should be introduced in the next Session of Parliament by Mr. Sanderson, M.P., and the Solicitor was instructed to interview Mr. Sanderson with regard to the selection of other supporters of the Bill."

Sir JOHN M'FADYEAN. I beg to move, sir, that that report be received and adopted. I only want to say, in a single sentence, that although of course we cannot give any assurance as to whether the Bill will pass in the next Session of Parliament, I know no good reasons for the pessimism with regard to this point which was expressed by the Hon. Treasurer in an earlier part of the proceedings.

Mr. PRICE: I second that.

The resolution was put and carried.

HONORARY ASSOCIATES COMMITTEE.

Prof. METTAM read the following report of a meeting of the Honorary Associates Committee held on Thursday, January 8th, 1914:—"Honorary Associates. A list of names was submitted and considered. It was unanimously resolved to recommend the following gentlemen for election as Honorary and Foreign Associates of the

Royal College of Veterinary Surgeons: Prof. G. Barrier, Ancien-Directeur, Veterinary School, Alfort; Dr. D. A. de Jong, Director, Public Abattoir, Leyden; Sir Thomas Elliott, K.C.B., Deputy Master of the Mint, London; Dr. F. Hofrat Hutyrah, Rector of the Superior Veterinary School, Budapest; Prof. C. O. Jensen, Director of Serum Laboratory, Copenhagen; Dr. O. Malm, General Director of Veterinary Administration, Christiania; Mr. A. D. Melvin, Chief of the Bureau of Animal Industry, Washington, U.S.A.; Dr. R. Ostertag, Gen. Regierungsrat, Director of Abattoirs, Berlin; Prof. Railliet, Veterinary School, Alfort; Mr. W. C. Schimmel, Substitute-Director of the State Veterinary School, Utrecht; Dr. R. Schmaltz, Prof. of Veterinary High School, Berlin; and Dr. J. Vennerholm, Prof. of Veterinary High School, Stockholm.

Prof. METTAM: I beg to remove the reception and adoption of this report.

Mr. BARRETT: I have pleasure in seconding that.

Mr. HOBDA: Is it possible to add to the list of these men at all?

Prof. METTAM: No.

Mr. HOBDA: It is not possible?

Mr. GARNETT: It is not desirable.

Mr. HOBDA: I do not wish to add a number of names to the list, but there are three names which were originally sent in by myself which at any rate I should like to be discussed. Possibly we might resolve ourselves into committee for the moment, because if they are not elected I would not like to have the matter discussed in public.

Mr. BARRETT: I move that we go into committee.

Mr. SHARE-JONES: I second that.

The resolution was put and carried.

The Council then resolved itself into committee.

On resuming its sittings in public,

Prof. METTAM: I propose that this report be received and adopted.

Mr. LAWSON: I second that.

The resolution was put and carried.

Prof. METTAM: I beg to give notice that these names with their qualifications be suspended on the board for the necessary period of time, and at the expiry of that time, and in due course I will move their election as Honorary or Foreign Associates.

LIBRARY AND MUSEUM COMMITTEE.

Prof. BRADLEY read the following report of a meeting of the Library and Museum Committee held on Friday, January 9th, 1914:—

Presentations. The Secretary reported that since the date of the previous Quarterly Meeting of Council the following presentations had been made to the Library, and it was resolved that a vote of thanks be conveyed to the respective donors:—

Clinical Bacteriology and Vaccine Therapy for Veterinary Surgeons, by William Scott, F.R.C.V.S. A Text-book of Horseshoeing, by A. Lungwitz and John W. Adams. A Description of the Imperial Bacteriological Laboratory, Muktesar: Its Work and Products, by Major J. D. E. Holmes, M.A., D.Sc., M.R.C.V.S. The Carnegie Foundation for the Advancement of Teaching: Medical Education in the United States and Canada. Medical Education in Europe. U.S. Department of Agriculture. Medical Milk Commissions and Certified Milk, by Ernest Kelley. The International Institute of Agriculture; An address delivered by J. G. Rutherford, C.M.G. Memoirs of the Department of Agriculture in India, Vol. 2, No. 2. Statistical and General Report of Army Veterinary Service, 1912. Annual Report of the Civil Veterinary Department, Bihar and Orissa, 1912-13. Annual Administration Report of the Civil Veterinary Department, Madras Presidency, 1912-13. Annual Report of the Veterinary Pathological Laboratory, Nairobi, 1911-12; *The British Medical Journal*, presented by

Dr. Bradley; *The Rhodesian Agricultural Journal* October, 1913; Bulletin of the Yellow Fever Bureau Vol. 3, No. 1; *The Bloodstock Breeders' Review*, December, 1913; *Revue de Pathologie Comparée*, October, and November, 1913; *The Journal of the Board of Agriculture*, October, November and December, 1913; Leaflets of the Board of Agriculture and Fisheries; Orders of the Board of Agriculture and Fisheries; *The Journal of Comparative Pathology and Therapeutics*, September and December, 1913; *The Veterinary Journal*, *The Veterinary News*, and *The Veterinary Record* for the quarter; *The Worlds Carriers* for the quarter.

Purchases. The Secretary reported that the following books had been purchased for the library:—

Tropical Diseases Bulletin, Vol. 2, Nos. 8, 9, 10, 11, and 12; Tropical Veterinary Bulletin, Vol. 1, No. 5; Minerva Jahrbuch der Gelehrten Welt, 1913-14.

Correspondence. The Secretary read letters from the *British Medical Journal* and *The Lancet*, declining to place the Library of the College on the free list.

On the motion of Dr. Bradley, seconded by Mr. Wharam, the report was adopted.

WALLEY MEMORIAL PRIZE FUND.

The SECRETARY: The Examiners for the Walley Memorial Prize Award report that of the four candidates who sat for Examination No. 7 obtained the highest number of marks, namely, Mr. J. F. D. Tutt, Royal Veterinary College of London. The candidates and their number of marks were as follows: J. F. D. Tutt, 186; David Marshall, 184; H. H. Curzon, 179½; W. H. Wortley, 146½.

The PRESIDENT: I move that the report be received and adopted.

Mr. LAWSON seconded the motion, which was carried.

WILLIAMS MEMORIAL PRIZE AWARD.

The SECRETARY read the following Certificate—"List of students gaining 60 per cent. or more marks in the Final Examination:

London, July, 1913: H. W. Dawes 121; R. Daubney 129.
" Dec., " A. H. Adams 121; W. B. Howe 121;
" " G. Williamson 124.

We certify that the above is a correct statement of the marks obtained by the candidates in the Final Year Examinations during 1913, who obtained 60 per cent. or more marks in the subjects of Veterinary Medicine and Surgery. Woodhouse and Wilkinson, Chartered Accountants."

The SECRETARY: The candidate obtaining the highest number of marks is R. Daubney, of the Royal Veterinary College, London, who therefore obtains the Williams Memorial Prize.

The PRESIDENT: I beg to move that the report as read be received and adopted.

Dr. BRADLEY seconded the motion, which was carried.

FELLOWSHIP EXAMINATION

The SECRETARY: I have to report that at the examination held on the 6th December, 1913, the following were admitted Fellows of the College—Messrs. H. Tudor Hughes, H. M. Holland, J. Basil Buxton.

This concluded the business of the quarterly meeting of Council.

SPECIAL MEETING OF COUNCIL.

At the conclusion of the quarterly meeting, a special meeting of Council was held. Mr. J. H. Carter, President, occupied the chair, and the same members were present as at the quarterly meeting.

On the motion of Mr. Garnett, seconded by Mr. McKenna, the minutes of the last special meeting, which had been printed and circulated, were taken as read and confirmed.

MOTION BY MR. GARNETT.

MR. GARNETT: I move the motion standing in my name on the agenda, for the alteration of Bye-law 53.

"That the following Bye-law be adopted:

- 53 (a) *Exemption.* Students who have obtained a Degree in Arts, Science, or Medicine of any University in the United Kingdom, or the Diploma of Licentiate of the Royal Colleges of Surgeons and the Royal Colleges of Physicians, and who at the respective examinations for such Degree or Diploma, have passed in Chemistry and Physics, and also in Biology (Zoology and Botany), are exempted from attendance at the first year's Course of Lectures and from the Examination at the end of that year, provided that each student so exempted shall be examined in the whole subject of Anatomy in the Class B Examination.
- (b) Students claiming exemption under this Bye-law shall, on entering an affiliated Veterinary School, submit to the Secretary of the Royal College of Veterinary Surgeons satisfactory evidence that they are entitled to such exemption.
- (c) Candidates possessing similar qualifications granted by Colonial or Foreign licensing bodies, shall submit their Certificates to the Examination Committee, who shall report to the Council on the eligibility of the applicant for exemption or otherwise."

MR. MCKINNA: I second that.

SIR JOHN M'FADYEAN: I would suggest for your approval it might be convenient to take my motion, which relates to the same thing at the same time. I am quite indifferent as to whether you put mine as an amendment or not.

THE PRESIDENT: Certainly.

That the following bye-law be adopted:—

- 53 (a) *Exemption.* Students who have obtained a Degree in Arts, Science, or Medicine of any University in the United Kingdom, or the Diploma of Licentiate of the Royal Colleges of Surgeons and of the Royal Colleges of Physicians, and who at the respective examinations for such Degree or Diploma, have passed in Chemistry, and also in Biology, Zoology, or Botany, are exempted from attendance at the first year's course of lectures and from the examination at the end of that year, provided that each student so exempted shall be examined in the whole subject of Anatomy in the Class B examination.
- (b) Students claiming exemption under this Bye-law must submit to the Secretary of the Royal College of Veterinary Surgeons, not less than three months before they intend to present themselves for the B examination, satisfactory evidence that they are entitled to the exemption.

SIR JOHN M'FADYEAN: With regard to my own proposal, I should like to point out that it differs from that of Mr. Garnett in two points. Mr. Garnett's suggestion attaches vital importance to the inclusion of both zoology and botany in the subjects embraced by the University degree which the candidate has obtained. It seems to me very questionable whether, if we had any considerable number of graduates for example of Oxford or Cambridge—I mean holding the Bachelor of Arts Degree of those Universities—we should deliberately refuse them this concession on the ground that included among the subjects of their examination there had not been both zoology and botany. I know it may be said that there is a considerable difference between Mr. Garnett's proposal and mine, inasmuch as under his proposal we should ensure that the candidate had studied all the subjects which are embraced in our curriculum, especially zoology and botany. But I only put it forward as my own view that since we have agreed among ourselves that it is desirable to adopt the

recommendation of the recent Departmental Committee, and endeavour to entice University graduates into the profession, we might quite well accept a B.A. or other University graduate, although it appeared that he had not presented himself both for botany and for zoology. Then the other difference between the two proposals is that Mr. Garnett suggests that a student who claims the exemption that is to be accorded to him must do so when he enters an affiliated Veterinary College. Now I confess I am quite at a loss to understand why such early intimation should be given. In the case of the General Knowledge Examination we do not ask candidates to submit their certificates to us until three months before the examination, and it seems to me we should be perfectly safeguarded in every way if we merely required the same length of notice from University graduates who would be exempted from the first year's course of study. Therefore I strongly prefer my own proposal with regard to that point, which is that students claiming the exemption under this Bye-law must submit to the Secretary of the Royal College of Veterinary Surgeons, not less than three months before they intend to present themselves for the B. examination, satisfactory evidence that they are entitled to the exemption. I want to point out that objection may be raised to Clause (b) in Mr. Garnett's proposal, because of its indefiniteness. What is meant by "entering an affiliated Veterinary School?" Does it mean that if a University graduate joined a Veterinary College on the 10th October in any year, and failed from oversight or any other cause to give that intimation during the following eight weeks, he would thereby render himself ineligible for examination in the July following? I think if the substance of his Clause (b) is preferred to mine, then some particular time ought to be specified, and it should not merely say "on entering an affiliated Veterinary School." I beg to move the Bye-law as printed on the agenda paper against my name.

MR. WHARAM: I second that.

MR. GARNETT: I might remind the Council, in reply to what Sir John M'Fadyean has said, of the fact that the only object of either the motion standing in his name or my name is to act upon the recommendations of the Departmental Committee, which strongly recommended that we should offer some facilities for graduates who had taken a science degree. I do not think it matters which, because at the most there can never be any great number; and if a man has taken a Science Degree at any of the Universities we, I feel confident, may safely admit him as having passed our first examination; that is to say, I do not press strongly the point that we should compel every man to have passed both in zoology and botany.

MR. SHARE JONES: What about physics?

MR. GARNETT: That is one of the specified subjects. The only point of difference is zoology and botany, or, zoology or botany.

SIR JOHN M'FADYEAN: I should certainly accept a University graduate although he had not passed in physics, but I think as a rule they pass in physics. I think the amount of physics that the ordinary veterinary graduate gets at the Colleges is so very little that I really should not insist upon it.

MR. GARNETT: It is a matter entirely in your own hands. I have no strong feeling about it at all, because I feel sure that we should be safeguarded in giving these gentlemen the exemption if they have a Science Degree from a University.

SIR STEWART STOCKMAN: What is your idea about Colonial degrees?

MR. MCKINNA: You say in (c) "Candidates possessing similar qualifications." What do mean by that?

MR. GARNETT: I will withdraw my motion.

Mr. BANHAM: Do I understand Sir John to say that supposing a man passed in Arts on classical work only you would admit him and excuse him from our first examination? Supposing a man passes at a University for a parson, and he changes his mind and comes up to the Veterinary College, surely you would ask that man to go through the first examination.

Sir JOHN M'FADYEAN: I should not condemn a man because he had aspirations towards being a parson. (Laughter). I put that entirely aside. To be a parson you do not require to have a University degree at all.

Mr. BANHAM: I said supposing he had studied for that and got his Arts Degree in those subjects.

Sir JOHN M'FADYEAN: But a man cannot get his Arts Degree on theology or anything like that.

Mr. BANHAM: Yes, he can.

Sir JOHN M'FADYEAN: No, I beg to differ. In fact no man gets an Arts Degree on one subject that I am aware of.

Mr. BANHAM: He can specialise.

Sir JOHN M'FADYEAN: Excuse me. In no University in this country, I think, can a candidate get an Arts qualification on one subject.

Mr. BANHAM: Not on one subject, no.

Sir JOHN M'FADYEAN: We should not debar a man from this exemption because theology had been one of his subjects, but he must have the other subjects specified.

Mr. BANHAM: Supposing he knew nothing whatever about botany and zoology.

Sir JOHN M'FADYEAN: Oh no. He must have passed in chemistry and also in biology and zoology or botany in his Arts Examinations.

Mr. BANHAM: Oh, I understood you to say he would be exempt so long as he got an Arts Degree.

Sir JOHN M'FADYEAN: No, I never suggested that. I want to add one point, and that is to mention that it is not only degrees in Science that we propose to accept, because the Universities of Oxford, Cambridge, and Dublin do not give degrees in Science; but nevertheless many of their graduates have presented themselves for precisely the same set of subjects as in other universities would be taken by what are called Science students. I was thinking, for instance, of a case in which a student had taken a B.A. at Cambridge, but instead of taking botany he had taken geology, that is to say his subjects included chemistry, zoology, and geology, but not botany. I really think it would be a little short of a shame to exclude that man when he has aspirations towards joining the veterinary profession.

The PRESIDENT: Mr. Garnett has withdrawn his motion, and it is suggested that I should put paragraph (a) of Sir John M'Fadysan's motion first.

Paragraph (a) of Sir John M'Fadysan's motion was then put and carried.

The PRESIDENT: Now we will take paragraph (b) of Sir John's motion.

Sir JOHN M'FADYEAN: I earnestly hope that Mr. Garnett will accept my clause (b).

Mr. GARNETT: I accept the whole of it.

Clause (b) of Sir John M'Fadysan's motion was then put and carried unanimously.

Mr. GARNETT: I now move that Clause (c) in my motion be adopted.

Sir JOHN M'FADYEAN: I beg to second that.

Sir STEWART STOCKMAN: Is not (c) redundant? I do not object to it, but I understand that many of these University qualifications are reciprocal as regards Home and Colonial Universities, and these men would be qualified according to Sir John's motion.

Prof. METTAM: I think it is as well that it should stand because it safeguards us. It may be that certain of these degrees are accepted by different universities in the kingdom, but it is as well that we should hold

some control, and that we should be able to see exactly what is the nature of these various qualifications. I have great pleasure in supporting the motion that Clause (c) be accepted.

The motion adopting Clause (c) was then put and carried unanimously.

MOTION BY MR. MULVEY.

The following motion was on the agenda paper in the name of Mr. Mulvey:

"That candidates presenting themselves for the First Professional Examination in and after December, 1915, be required to produce a certificate of having passed one of the preliminary educational examinations in accordance with the revised regulations of the General Medical Council, provided that, in the case of candidates whose educational certificates are dated earlier than November, 1914, the present regulations shall apply.

That Schedule I., as revised, be approved."

Mr. MULVEY: As the Council have given instructions that the whole subject of the preliminary educational examination be remitted to a Committee, it only remains for me to ask your permission to withdraw the resolution standing in my name.

Permission was accorded to Mr. Mulvey to withdraw his motion.

Sir JOHN M'FADYEAN: If that is agreed to I want to withdraw, and apologise for the suggestion I made at an earlier stage of the proceedings, that the Hon. Treasurer was anxious to rush the College into bankruptcy.

On the motion of Mr. McKinna, seconded by Mr. Price, a hearty vote of thanks was accorded to the President for his conduct in the chair, which the President briefly acknowledged, and the meeting terminated.

VETERINARY MEDICAL ASSOCIATION OF IRELAND.

[NATIONAL V.M.A., IRISH BRANCH.]

A general meeting was held on December 10th, 1913, Mr. P. J. Howard in the chair. Also present Messrs. Heney, Watson, Reavy, Holland, Ebbitt, Kerr, Carr, Magee, Prentice, McKenny, Wilkinson, Norris, McCann, Dodd, Shearman, Griffin, MacClancy, Winter, and Profs. Mettam, Craig, Dunne, and O'Connor.

Minutes of previous meeting, which were circulated with notices of meeting, were taken as read.

Apologies were received from Messrs. Pierse, McGuinness, Small, Purcell, Moffett, and Col. Moore.

The CHAIRMAN: You have heard our Secretary read the correspondence. As to the Victoria Veterinary Benevolent Fund, I think that scarcely needs any recommendation from me. You all know that this fund has been helping the widows and children of several members of the profession here in Ireland, and that up to the present the amount of money subscribed to the fund is not anything like the amount that has been spent on our members. I feel that as Irishmen alone we should feel ashamed of that, and it behoves every one of us to support this fund to the best of our ability. (Hear, hear.) Surely no member would miss even a small donation. Even a small donation would help the fund materially. I hope sincerely that every member of our profession will at once recognise the necessity of subscribing even some small annual sum towards this very good fund.

Then as regards Mr. Garnett's letter in reference to the International Veterinary Congress, I may say that the Congress will be held in London next year. Natur-

ally we are supposed to be as much interested in the matter as are people on the other side of the channel. On reading over the list of subscribers to the fund in connection with the Congress I was really very sorry to see that very few have subscribed from Ireland up to the present, and I hope that this has arisen through mere thoughtlessness, and that this letter will evoke a speedy response. No member will miss a guinea or half-a-guinea, and if all subscribe the fund will be greatly helped.

Then there is a note of Mr. Holland's—that we should take steps to have the question of rebate on petrol considered with a view to getting a rebate allowed to the members of the veterinary profession, as it is allowed to members of the medical profession. I think it is time we did take steps. Of course steps were taken on the other side, and the concession was refused by the Chancellor of the Exchequer, but I consider we have a good case. However, I suppose we must only hope that if we are refused by the present Chancellor of the Exchequer, next year—when we are expected to have Home Rule—this matter will be remedied.

The SECRETARY: This question came before our meeting once before, and I think it was Mr. Walsh, of Carlow, and Mr. Loughran, Aughnacloy, who raised the question with regard to getting a rebate on motor car licences, and on the petrol tax. In consequence of their action we got counsel's opinion, which was to the effect that we were entitled, as medical practitioners, to get licences at reduced fees, and also to get a rebate on the petrol tax.

Mr. WINTER: It is a totally illegal charge, and never should be paid. It is not enforced, and nobody has been prosecuted for not paying it in either Cork or Limerick.

Mr. CARR: Mr. Walsh, of Carlow, was not alone prosecuted, but he was also fined. I do not see why we should not be entitled to the same privileges as regards petrol as the medical profession. Anybody who uses a motor car knows how expensive the petrol is, and most members of the veterinary profession—especially country practitioners—are getting cars. It is one of the first duties of an Association like this to see to matters of this kind. Our President, who has a motor car, will tell you that the petrol bill goes up day after day.

Mr. WATSON: When Mr. Freeman made an application to the Corporation he brought a definite opinion with him and showed it to Mr. Tobin. Mr. Tobin, when he read the opinion, said he was perfectly clear in his mind that we were entitled to a rebate.

The SECRETARY: Mr. Moffatt, of Galway, also got it as a medical practitioner.

Mr. WILKINSON: I got a form from the authorities asking for the dimensions of the cylinders of my car, which I filled in. They then said I was entitled to pay a three guinea tax. I sent on a note that I was entitled to the same exemption as medical practitioners, especially as members of the veterinary profession were recognised as such in the High Courts in Ireland. Eventually they allowed me this half rate.

The CHAIRMAN: As regards Mr. Winter's statement, that the tax is illegal, it so happens that it is a tax supposed to be collected by the County Council. Inasmuch as it is a tax that was not supposed to be pocketed by the County Council or used by them, the notion got abroad that it was an illegal tax. Now since the Road Board has been established the County Council are taking steps to collect that tax. I believe they cannot collect the tax due over several years, but they can collect taxes for the current year.

Mr. WINTER: You will find the whole tax has been repealed in Ireland.

The CHAIRMAN: This is the motor car tax, not the wheel tax.

Mr. WINTER: You will find it applies—the wheel tax applies. Mr. Mahony, of Maryborough, told me he was keenly interested in this question. Would you kindly adjourn it until he comes?

It was agreed to adjourn the matter until Mr. Mahony's arrival.

The CHAIRMAN: The tax is not the serious part of the thing really. Mr. Holland's letter is with reference to a rebate on the petrol tax, which is different altogether from the annual licence you pay on the motor car.

The CHAIRMAN: You had correspondence with reference to the Sanitary Institute.

The SECRETARY: We have a letter here *re* the Congress of the Royal Sanitary Institute. It is a letter simply asking us to appoint a delegate. If we do so we shall have to subscribe one guinea.

The CHAIRMAN: Of course on former occasions we have sent a delegate.

Prof. METTAM proposed that any money to be spent on Congresses should be handed over to the International Congress, and that this letter from the Sanitary Institute be marked "read."

A MEMBER: I beg to second this proposition.

The CHAIRMAN: With regard to the International Congress, I may mention that we have already subscribed to the funds from our Society.

The SECRETARY: Yes, and the Treasurer will have to say whether the funds will permit of another subscription.

Prof. CRAIG: We subscribed £10. Our funds would permit of a subscription of five guineas. Perhaps in the earlier portion of next year we may be able to make up £10, but I think that at the present time it would be better if we only sent over a cheque for £5.

Mr. HOLLAND proposed "That at the next meeting we consider the question of a further subscription to the funds of the International Veterinary Congress."

Prof. METTAM: I second that proposition.

The SECRETARY: I received the other day some veterinary literature in the form of pamphlets from Prof. Perroncito, of Turin. The pamphlets are printed in Italian. Prof. Perroncito deserves the thanks of this Association for sending us these pamphlets. I propose a resolution to this effect.

The CHAIRMAN: What is the nature of them? What is the object of sending them?

Prof. METTAM: Might I say that Prof. Perroncito is an hon. member of our Association.

The CHAIRMAN: I am sure we are unanimous in thanking Prof. Perroncito for these communications.

The SECRETARY read the following:—

REPORT OF COUNCIL.

A meeting of the Council of the V.M.A.I. was held at the Veterinary College, on Tuesday, Nov. 11th, 1913, at 5 p.m. There were present: Mr. P. D. Reavy in the chair, and Messrs. Heney, McKenny, Mahony, Wilkinson, Magee, and Profs. Craig and O'Connor.

The minutes of the last Council meeting were read, confirmed, and signed.

Apologies for non-attendance were received from Messrs. Howard, Patrick, Dunlop, and Prof. Mettam.

A postcard was received from Mr. Holland asking that rebate on petrol be put on agenda for general meeting. Agreed to.

Letter received from Mr. Shipley asking for renewal of subscription to Veterinary Benevolent Fund. Proposed by Mr. McKenny, and seconded by Mr. Mahony, and passed, that last year's subscription be repeated.

Letter received from Mr. Garnett with reference to further subscription to International Congress Fund. Ordered to be brought before the general meeting.

Letter from Mr. Howard to be brought before the

general meeting with reference to wreath for Mr. Hunting's funeral.

Nomination. Mr. Luke P. Knight, of Enniskillen, was proposed by Mr. Reavy, and seconded by Mr. McKenny.

It was arranged that the general meeting should take place at the Veterinary College, on the evening of the first day of the Winter Shows, at 7.30 p.m., Prof. Craig to read a paper on "Sarcoptic mange in the dog," illustrated with lantern slides and specimens.

With reference to the annual dinner, it was resolved that evening dress should be worn.

The HON. TREASURER reported that a large proportion of the members of the Association had not paid their subscriptions, some of them for years, and wished the Council to decide what action should be taken in the matter. It was resolved to bring the matter before the general meeting.

Mr. CARR complained that the Association had not met in accordance with the rules.

The CHAIRMAN: In this matter, I suppose, I am probably the guilty party. When Prof. O'Connor wrote to me about the meeting I simply suggested that the first day of the Winter Show would be the proper time to have the meeting instead of November. I am sure the members present will accept this explanation.

From the report of Council you will see that it is suggested that a further subscription be sent to the Veterinary Benevolent Fund. I take it that the amount will be similar to that subscribed on former occasions.

THE LATE MR. WILLIAM HUNTING.

The CHAIRMAN, referring to the death of Mr. Hunting, said it will be our duty to send a vote of condolence to Mr. Hunting's relatives. Though not a member of the Association he was a friend of the Association and of the various members of the profession here in Ireland. We are all aware of the good work that he did on behalf of the veterinary profession. He was one of the pillars of the profession, and never spared himself in any way in advancing its interests and those of veterinary science. He was a man to whom we must all look up to as an example to be followed. I wish to propose a vote of condolence which our Secretary will send to the late Mr. Hunting's relatives conveying our sympathy in their bereavement.

Prof. METTAM: I have the melancholy pleasure of seconding the motion from the chair, which places on record the very severe loss which the profession has sustained.

The motion was passed in silence, the members standing.

Mr. REAVY proposed a resolution expressing their deep sense of the loss sustained by the death of Mr. John A. Thompson, of Lurgan: "We, the members of the Veterinary Medical Association of Ireland place on record our high appreciation of the late J. A. Thompson, F.R.C.V.S., of Lurgan, a distinguished member of our Association and profession; and we express our deep sense of our loss. His genial manner and wisdom endeared him to us all as a good friend, and his great professional knowledge and skill were ever helpful to us all in our everyday work. We tender to his wife and family our heartfelt sympathy in the hour of their sore affliction.

Mr. WINTER seconded. He said that the late Mr. Thompson was a personal friend of his, as indeed he was of most of them there that evening. They all knew what he was, how keen he was in his professional work, and what a good friend he was to his professional brethren.

The motion was passed in silence.

Mr. MAGEE: May I mention the death of another colleague recorded in the papers this morning—Mr. O'Reilly, of Navan, who was a member of this Associa-

tion at one time. I should like to propose a vote of condolence, and that we should send a letter of regret to his father, Mr. Laurence O'Reilly, of Navan, expressing our regret at his loss.

Mr. McKENNY seconded the motion which was carried in silence.

The CHAIRMAN: The next business is to ballot for candidates for membership, already proposed and seconded.

After the ballot the Chairman announced that Messrs. KNIGHT, DOLAN, and O'BRIEN had been elected members of the Association.

MOTOR CARS AND PETROL.

A telephone message was received from Mr. Mahony saying he missed his train.

The CHAIRMAN: We may now discuss the question of the rebate on petrol.

Mr. WINTER: I beg to propose that the matter be referred to the Council to take action. This is a matter of some importance to a good many of us, and I think it is high time we should go thoroughly into the question of the tax. The High Court has declared that we are medical practitioners. If so we should claim the privilege we are entitled to. We are exempt from juries, and we should insist on our rights in this particular too. I was informed by a legal man of some standing that the tax was an illegal tax. But I think the best thing to do is to refer the whole matter to the Council.

Mr. HOLLAND: It is very hard to get a full meeting of the Council together. I called some attention to this matter in a couple of short letters, and Mr. Mahony wrote one in reply. I am glad to find that you are in entire accord with the views I hold myself and I think it only remains now for us to take counsel as to the best method of accomplishing the objects in view. I am not aware whether, when the question of the tax arose, the medical profession were mentioned in the Act of Parliament.

Mr. WATSON: They are.

Mr. HOLLAND: Then we will have to have recourse to the Law Courts, as Mr. Allen did. Did you get counsel's opinion at that time Mr. O'Connor?

The SECRETARY: Yes.

Mr. HOLLAND: Is Mr. Walsh, of Carlow, still a member?

The SECRETARY: Yes.

Mr. HOLLAND: Well, he complained at the time. I asked a young member of the profession was he not a member, and he said no, as we had done nothing for Mr. Walsh when he was fighting the County Council. I said we feed counsel, and I am very glad to see I was right. If necessary I think we should approach the Chancellor of the Exchequer through our Members of Parliament. In what way did our English friends fail?

The CHAIRMAN: When the tax was first proposed it was to be a general tax. Then the medical profession approached the Chancellor of the Exchequer and got him to give a rebate, on the ground that they were taking up a humanitarian position in going to save life. On the strength of that the veterinary profession in England sent a deputation. We have no business in going to the Chancellor of the Exchequer. If we hold on to the fact that we have been recognised as medical practitioners in our own country we might succeed.

Mr. HOLLAND: Would not it be well to approach the Chancellor of the Exchequer first?

The CHAIRMAN: They have approached him in England and he has refused them.

Mr. HOLLAND: England is a rich country. If we agitated we should probably succeed.

The CHAIRMAN: It might be dangerous, having regard to the fact that he has already refused our profession in England.

Mr. HOLLAND: We are working too for the preservation of human life, in stamping-out the "white plague," and I think that should be a good excuse for us.

Mr. CARR: I suggest that as the veterinary profession in Ireland have so much to do in connection with public health matters and as we are of so much use to the public at large, that the same facilities should be given to us as to the medical profession. We did not know at the time that the Revenue authorities had recognised the medical profession in the licensing of cars. Now, I am sure that armed with the authority of the Inland Revenue, the Chancellor of the Exchequer would give us the same advantages as the medical profession, because they have admitted we are on the same grounds as the medical profession. I don't think we should have any difficulty in this matter. I would suggest that a committee of members of our organisation should see the Dublin Members of Parliament. I do not think it would embarrass the Government in any way, because now the policy is "full steam ahead."

Mr. REAVY said that the Revenue authorities had nothing at all to do with the licensing of cars. It was the County Councils.

Mr. WILKINSON: I know that mine has to be paid at the post office.

Mr. REAVY: I know a man in County Donegal who got a refund through the County Council.

Mr. CARR: You can pay through the County Council or through the Post Office. When the Automobile Club have a grievance about road they advise members not to pay taxes in that particular county.

Mr. WINTER: The taxes will be enforced in the particular county in which you reside.

Prof. CRAIG: I think the discussion is going away from the point. The question before us is, how we are going to get a rebate—how can we claim it, and how can we insist on it? The only way we can see this is to have a test case arranged. If a test case is arranged, a certain amount of money will be necessary, and I don't think the Association is in a position to supply a sufficient amount of money to carry on a test case. The only way is by forming a substantial sum for the purpose. There is no reason, if it would pay car owners who are veterinary surgeons, why they should not raise a fund amongst themselves. For that purpose I would propose that a small committee be formed, including Mr. Holland, Mr. Reavy, Mr. Mahony, Mr. Wilkinson, and Mr. Howard, to make arrangements with reference to that point.

Mr. REAVY: I think it would be a one-sided arrangement to select only the owners of cars. This is a matter that concerns the whole profession.

Mr. WATSON said he desired to second Prof. Craig's resolution.

The CHAIRMAN: I am sure that Professor Craig does not mean that all the expense should come on people who own motor cars. He merely suggests that people who own motor cars should at least start the fight, and we will see that any expense incurred is made up for them.

Mr. CARR said that as far as the dignity of their profession was concerned, they wanted to be on the same standing as the medical profession.

Mr. HENEY: I am not a motor car owner, but I want to say this—I understand that the High Court has, thanks to Mr. Charles Allen, classed us as medical practitioners. The medical practitioners have at the present moment obtained a rebate on petrol of, I think, 1½d. a gallon. Speaking recently to a manager, I asked him would I not be eligible for a rebate on the petrol consumed, and he said "yes, if you buy petrol. I will certify you bought so many gallons of petrol. Present that at the Custom House, and you will be allowed a

rebate." If we are recognised, surely we are entitled to a rebate without going into committees.

The SECRETARY: We have counsel's opinion here, and I think it clears up the matter very well. There is no doubt as to being entitled. That is what Mr. Fottrell, solicitor, told Mr. Freeman, when Mr. Freeman, in applying for his licence, sent it in and got it as a medical practitioner. Mr. Moffett got a rebate on the licence.

Mr. HENEY: Can we hear counsel's opinion?

The SECRETARY: I may say in regard to the suggestion of Professor Craig that Mr. Mahony the other day stated here that he, as a motor car owner, was prepared to stand in and bear the expense with other owners of having a test case.

Mr. NORRIS said he thought it unwise to go into that too much. They might have a reverse such as the Royal College of Surgeons got quite recently.

The CHAIRMAN: This is the last meeting of this year, and at the next meeting—which will be the annual general meeting—there will be the important matter of the election of the various officers. Now a number of members of the Association don't take the interest they ought to in this question of the election of the officers. The rules provide that during this month of December if any member of the Association wishes to nominate any other members, either as President or member of the Council of the Association, he shall make that nomination during this month of December. I simply wish to remind you that it is your duty as members of the Association to take an interest in the business, and if you think there is any alteration required in the personnel of the various positions you should nominate the persons you think ought to be in those positions and send them in to the Secretary.

Mr. WATSON: We must also obtain the consent of the members that they will act in the positions.

The CHAIRMAN: Yes, that is so; but I just wished to point out that the time is at hand for making the nominations.

Mr. CARTER: May I be permitted to thank the members for having been privileged to be present at your meeting to-night. I am specially grateful to Prof. Craig for his excellent paper on a most interesting subject. It is a pleasure to us, who come here as visitors from time to time, to find that we always get that welcome and hospitality for which Irishmen are proverbial. I wish to express thanks to the gentlemen who have so kindly entertained me—especially Prof. Mettam—during my visit here. (Applause.)

The CHAIRMAN: I am only sorry that the Irish Channel prevents Irishmen and Englishmen from having more frequent interchanges at our meetings.

Professor J. F. CRAIG, M.A., M.R.C.V.S., then read a paper on "Sarcoptic Mange in the Dog," which was illustrated by lantern slides and specimens. [This paper will appear later.]

LANCASHIRE VETERINARY MEDICAL ASSOCIATION.

[NATIONAL V.M.A.—NORTHERN BRANCH].

The quarterly meeting was held on Thursday, December 11th, at the Grand Hotel, Manchester, the President, G. H. Locke, Esq., in the chair. The attendance included Messrs. Hopkin, Lawson, Hughes, Ellis, Lloyd, Taylor, Holroyd, W. G. Burdred, Dobie, A. M. Munro, Bridge, Wolstenholme, Noël Pillers, Richmond, E. J. Burdred, Campbell, Stent, Packman, Wilson, Walker, Darwell, Mattinson, Carter, C. L. Smith, Michaelis, Ingram, Rankin, Whitehead, Spruell, and Brittlebank,

Visitors: Messrs. Halstead, Facer, Menzies, Torrance, Finch, Curbishley, and W. J. Young.

Apologies for absence were received from Messrs. Hughes, Hobday, Abson, McKinna, and Wharam.

Minutes.—The minutes of the last quarterly meeting were taken as read, being proposed by Mr. Lawson, and seconded by Mr. Carter.

THE LATE MR. WM. HUNTING.

The **PRESIDENT**: before opening the proceedings referred to the sad loss which the veterinary profession had sustained by the death of Mr. Hunting. Unfortunately the Association did not know in time to arrange for representatives to attend the funeral nor to send a floral tribute.

Mr. CARTER said it was with melancholy feelings that he rose to propose that they should send a letter of condolence to the family of the late Mr. William Hunting expressing sincere sympathy and regret on their loss. Mr. Hunting was well known by every member, and was a pillar in the profession. He spent much time travelling about the country attending meetings, and also contributed repeatedly to veterinary literature. He (Mr. Carter) had been associated with Mr. Hunting in examination work, and it was noticeable by the kindly manner in which he dealt with students coming before him how endeared they were to him.

Mr. LAWSON, as an old friend of Mr. Hunting, also spoke of his life-long association with the deceased, and said no better man ever entered the profession.

The resolution was passed in silence, all present standing.

Nominations. Mr. E. H. CURBISHLEY, Alderley Edge, and Mr. RUTHVEN, New Mills, were nominated for membership by Mr. Brittlebank, whilst Mr. Packman nominated Mr. CHAS. BLACKHURST, Preston.

Elections. Mr. J. D. RANKIN, Colne, was unanimously elected a member of the Association, on proposal of Mr. Locke, seconded by Mr. Brittlebank.

Tenth International Veterinary Congress, 1914. The **HON. SEC.** read a copy of a circular letter which had been sent to the members of the Association and members of the profession resident within 50 miles of Manchester, excluding Yorkshire, inviting subscriptions towards the expenses of this Congress, and expressing the hope that the Lancashire V.M.A. would do as well in this respect as any other Association in the country.

Election of Council R.C.V.S., 1914. The **PRESIDENT** reported that the Council of the Lancashire V.M.A. had duly considered this matter and came to the conclusion that they had a good nominee in Mr. Brittlebank, and recommended that he be adopted. He proposed that this recommendation be confirmed. Mr. Carter seconded.

Mr. HOPKIN, in supporting, said that, if elected, Mr. Brittlebank would be an acquisition to the Council owing to his practical knowledge of the needs of the profession and, in particular, certain aspects of it.

Mr. BRITTLEBANK, in thanking the members for their promise of support, said that if successful he would endeavour to uphold the honour of the profession, and particularly that of the north.

The **HON. SEC.** reported the receipt of a letter from the Yorkshire V.M.A. intimating that Mr. A. Mason would again be their candidate and inviting support. The Lancashire V.M.A. usually combines with the Liverpool University, Yorkshire, and Eastern Counties V.M.A. for electioneering purposes, and the Council suggest that this procedure be again adopted. Mr. Wolstenholme proposed, and Mr. Taylor seconded, that this be done. Carried.

Annual Dinner. The **SECRETARY** said the Council recommended that the annual dinner be held as usual, under the conditions existing last year, viz., that

ladies be invited. It was proposed by Mr. Pillers and seconded by Mr. Carter, this recommendation be approved. Carried.

ELECTION OF OFFICERS.

President.—Mr. TAYLOR, in addressing the members said he did not address the present occupier of the chair because he intended asking them to re-elect Mr. Locke to the office so well filled by him during the past twelve months. It was argued that honours should go round, but they had not a large membership, and Mr. Locke had only just served his apprenticeship as President, though he had a long innings as secretary of the Association. The Society had prospered under his régime, and he (Mr. Taylor) looked forward to another prosperous year.

Mr. WOLSTENHOLME seconded the proposition, and it was approved.

Mr. LOCKE thanked the members for a renewal of the honour conferred upon him.

Vice-presidents.—The Council recommended the names of Messrs. ACKROYD, NOEL PILLERS, and J. WRIGHT. This was proposed by Mr. Wolstenholme, seconded by Mr. Carter, and carried.

Hon. Treasurer.—Mr. Lloyd thought they could not do better than re-elect Mr. STENT, who was working hard in the interests of the Association. He proposed Mr. Stent, and Mr. Wolstenholme seconded.

Secretary.—The President expressed pleasure in proposing that Mr. BRITTLEBANK be re-elected. Mr. Lawson seconded.

Hon. Auditors.—Mr. W. A. TAYLOR and Mr. J. SPRUELL were appointed, being proposed and seconded by Mr. Pillers and Mr. Hopkin respectively.

Council.—There were submitted:—The President, Vice-presidents, Hon. Treasurer, Hon. Secretary, and Auditors, together with Messrs. J. Clarkson, J. Hopkin, A. Lawson, J. McKinna, A. Munro, sen., W. Packman, H. Sumner, J. B. Wolstenholme, and W. Woods.

Mr. CARTER proposed that these be elected as Council, and Mr. Burndred seconded.

"SOME DIFFICULTIES IN THE DIAGNOSIS OF DISEASE IN ANIMALS IN OPEN MARKETS."

J. D. WHITEHEAD, F.R.C.V.S.

The veterinary inspection of live animals exposed for sale in auctions and cattle markets has been carried on in a more or less unsatisfactory manner for many years.

1. It may be divided into two sections, viz., the inspection of animals under the Diseases of Animals Acts, and the various Orders made by the Board of Agriculture.

2. The inspection of such for the protection of the public health in the prevention of the sale of diseased animals intended for the food of man.

Under the first heading it may be remarked that where a veterinary surgeon has been appointed to inspect a market it is chiefly for the purpose of inspecting pigs, with a view to the detection of swine fever, and nothing further is done. This applies to the majority of markets, and it may be remarked here that the Diseases of Animals Acts do not make it compulsory for a local authority to have a veterinary surgeon present at the live stock markets.

For many years past the inspection in the Salford cattle market has been in the hands of veterinary surgeons, who have not confined their attention entirely to the inspection necessary for the purposes of the Board of Agriculture Orders, but extended the scope of their activity and endeavoured to detect diseased conditions such as might be dangerous to man from the food aspect. It may be of interest to state that the

Salford cattle market is the largest in Great Britain, the number of animals exposed for sale average weekly 2000 cattle, 12,000 sheep, besides calves, and a very few pigs.

The importance of the inspection of markets is considerable, and additional attention was drawn to the value and necessity of the work by the issue of the Tuberculosis Order of 1913.

My experience in the inspection of a cattle market has shown me that there can be no half measures—that an official must take a firm stand, make full use of his legal powers, and be prepared to face considerable opposition. Lax inspection for a week or two and the dealers take advantage of it—with a marked increase in the number of cattle of a doubtful class.

Before proceeding further, it may be of interest to state the legal powers under which such inspection can be carried out. They are contained in Section 116 of the Public Health Act 1875. "Any Medical Officer of Health or Inspector of Nuisances may at all reasonable times inspect and examine any animal, carcase, meat, etc., exposed for sale or deposited in any place for the purpose of sale, or of preparation for sale and intended for the food of man, the proof that the same was not exposed or deposited for any such purpose, or was not intended for the food of man resting with the person charged, and if any such animal etc. appears to such medical officer of health or inspector of nuisances to be diseased, or unsound, or unwholesome, or unfit for the food of man, he may seize and carry away the same himself, or by an assistant in order to have the same dealt with by a Justice."

You will observe that the fact of being a qualified veterinary surgeon or a veterinary inspector to the local authority does not qualify him to perform the duty of inspecting animals, and that it is necessary for him to be appointed an Inspector of Nuisances. This want of recognition of the qualification of the veterinary surgeon in the Public Health Act is a matter that the Royal College of Veterinary Surgeons or the National Society should keep in view when a new Public Health Act comes to be drafted. Many veterinary surgeons may be of the opinion that it would lessen their professional dignity to be so appointed, but it gives one greatly increased powers, and enables a veterinary surgeon to take action without going for the aid of the Medical Officer of Health—who is probably totally ignorant of the subject, or of the Inspector of Nuisances—who is usually keen on getting the credit for doing the work. There has always been some difficulty in taking action with live animals under this section of the Public Health Act. The dealer in questionable animals knows the law—usually from experience—and not an uncommon plea is to be told that the animal was for "store" purposes. In the past my action was to wait until I observed a butcher bidding, and then to threaten seizure with its attendant penalties, if the owner did not immediately slaughter and give facilities for the inspection of the carcase. Of course one has always to bear in mind the question of illegal seizure and the consequences thereof, but where the animal is slaughtered by the owner's directions, no question of illegal seizure can arise. The point of view I have always upheld to owners of suspicious animals was, that if sold alive they would only get a gambler's price from a butcher, whereas if such animal were slaughtered and the carcase, or any portion of it, passed, this would realise its full market value, and perhaps more than the live animal.

The Salford market is chiefly a butcher's market, and the animals exposed for sale are mostly fat ones. The cattle—principally bullocks and heifers—are Irish, Welsh, Norfolk, and Scotch, in the order mentioned. A fair number of fat barren cows are shown, being brought from Cheshire, North Wales, and Staffordshire,

and it is amongst these one expects to get the most of one's public health work. A few fat bulls are also brought from the same district.

Sheep are Irish, Welsh, Lincolnshire, and North Country, from the Carlisle and Border Counties.

Recently a market in newly-calved cows has been established, and about 100 of these are shown weekly, they are principally Irish, and are of all ages. A few store cattle are also brought, and the difficulty is that these animals are not confined to a special part of the market.

The majority of these animals arrive in the borough by railway, and accidents and death during transit are not infrequent. The causes of death in transit are often obscure, and one is frequently called upon to give a decision in these cases. Accidents giving rise to broken limbs, broken horns, lameness, etc., are frequent, and each case has to be dealt with on its merits. Serious injuries are often caused by cattle horning each other in transit, my experience being that the most serious injuries are chiefly in the flank, and may cause a rupture of the abdominal wall.

The methods of diagnosis in live markets are limited. One has to rely on sight and touch; percussion and auscultation are not practicable. A knowledge of the districts from which the animals come, and the disease most frequently met with in animals from these districts plays a very considerable part in one's success—or otherwise—in diagnosis.

The diseases most commonly met with are tuberculosis, John's disease, actinomycosis, and parasitic conditions.

Tuberculosis is not an easy condition to diagnose at any time, the pitfalls are numerous, and symptoms are often indistinct. The diagnosis of tuberculosis of the lungs, in great part depends on the character of the cough that one can excite by compression of the larynx—a weak, paroxysmal, non-expulsive cough gives one a great feeling of confidence, and an animal with a barrel-like thorax, with fixed ribs and abdominal breathing, is usually in the same category. I am always suspicious of an animal with marked tympany, and when one comes to enquire into the history of such a case one often learns that it is a constantly recurring condition; such cases are often due to enlargement of the mediastinal lymph glands.

Tuberculosis of the udder one used to meet fairly often, but of late it has become rarer. Since the 1st of May, 1913, I have detained 17 cows with indurated udders, 11 of these proved on post-mortem examination to be tuberculous; and six were not. All of these were advanced cases, and were probably cleared off the farms because the owners realised this fact. I have no doubt, of course, that many animals have been through the market affected to a less degree and were not detected. Inspection is at all times of secondary importance to business and one cannot get every cow tied up or held, to afford a proper examination of its udder.

Brain symptoms due to tuberculosis are of interest and great help in the examination of young cattle.

I am not aware of any one who endeavours to diagnose tuberculosis of the bowels and mesenteric lymphatic glands in animals in markets by rectal examination, and it would be a source of amusement to cattle dealers and drovers if one attempted it.

Enlargement and induration of the superficial lymphatic glands or a "snorer" are great aids. The chief lymphatic glands to examine for this purpose being the submaxillary—parotid and pre-scapular; but it is easy to imagine one in handling an enlarged lymphatic gland and on post mortem to find that the same gland is normal in size and consistency.

Tuberculosis of the eye is rare, but a lesion well worth bearing in mind: and the same value attaches to tuberculous joints, which are not uncommon. John's

disease is frequently met with; cases occurring in animals from all districts, excepting Ireland, supplying the Salford market. The affected animals appear obvious screws, but it is difficult to differentiate them from tuberculous subjects. These cases are invariably dealt with under the powers of the Public Health Act. I find that animals so affected are usually deficient in muscle, and at the same time when one handles the flank they give one a surprise as to the amount of adipose tissue. This is borne out on post-mortem, as many of these animals kill with a fair amount of fat on an otherwise very plain carcase.

Actinomycosis of the udder is probably not common. When it occurs it is very like a typical case of tuberculosis of the udder, and perhaps the lesion is not so rare as is imagined. Parasitic conditions, *e.g.*, echinococcus cysts in the lungs, are very misleading from a clinical point of view, and are great teachers of the limits of one's powers of diagnosis.

The coenurus cerebri occurs in the brain of cattle, and this also tends to check any sense of security in diagnosis and feeling of confidence which one may have gained after having several cases of tuberculosis of the brain and meninges.

Fluke in sheep causing emaciation and dropsy with looseness of the wool undoubtedly calls for action, and slaughter should be insisted on, with a threat of seizure alive if one's request is not complied with.

While speaking of tuberculosis I mentioned tympany as probably due to tuberculosis of the mediastinal glands. On one occasion I saw this due to actinomycosis of the thoracic portion of the oesophagus; and recently a case due to a non-tuberculous abscess in a mediastinal lymphatic gland.

It appears to me that the Tuberculosis Order is of little use in its powers regarding markets. The Tuberculosis Order made little alteration in the Salford market, the figures being: cows seized in 1911, 71; and in 1912, 41.

In the first place no inspector should need such an order to enable him to deal with emaciated animals; such animals can be dealt with at any time under the Public Health Act.

I should be pleased to have a definition of "emaciated" because it appears to me that the powers that be draw it very hard and fast.

Another objection is the allowing to the owner the option of removing the suspects home again, or to any other area for diagnosis or slaughter, as the case may be. Cases do occur where the animal is slaughtered by the owner, and the market inspector is later informed she was sound, and there is friction. I believe many local authorities wish their veterinary inspector to send these cases back, but if they would take advantage of section 20 (7) of the Diseases of Animals Act, which allows a local authority to withhold compensation if, in their opinion, an owner had been guilty of an offence, and, if possible, have animals dealt with in the market area, it would have a deterrent effect on dealers. I have only had two animals removed from my market since the 1st of May, 1913.

Another and serious difficulty with this Order is when a dealer brings a cow with a suspicious udder, and on the veterinary inspector examining this cow, he (the owner) produces a note signed by the local Police Inspector withdrawing restrictions from a cow of the same description. It is not possible to say the note refers to the cow one is examining and suspecting, and a dealer's word is not always to be believed. The Tuberculosis Order has also given rise to a difficulty with Irish cows. Recently I detained an Irish cow with well marked tuberculosis of the udder, and the dealer—a respectable one—informed me he purchased her in an Irish market the previous week, she had passed through three inspections, viz., Irish market

local veterinary surgeon, Irish Board of Agriculture and English Board of Agriculture, and of course he alleged my diagnosis was wrong. However, on post-mortem next day she proved a case of generalised tuberculosis.

I am anxious to know if the present period of detention and veterinary examination at the ports is for the purpose of examining the animals for all scheduled diseases, or only for those thought to be the more contagious.

In conclusion, I may add that market inspection is very interesting, in that it gives opportunities for confirming, or otherwise, one's diagnosis by an immediate post-mortem. On the other hand, one feels rather disappointed if they have a series of wrong diagnoses and slaughter.

Personally, I feel that veterinary inspectors should have power to detain for examination any animal that appears diseased or unwell—these animals to be placed in properly equipped lairs and kept at the local authority's expense until a complete examination and diagnosis can be made.

DISCUSSION.

Mr. LLOYD wished to thank Mr. Whitehead for his paper, which they would all realise was the outcome of practical experience, and consequently of much more value to many than anything he could have got from books. Referring to the compulsory inspection of markets, and the expression of opinion that the veterinary inspector should have power to detain animals, he entirely agreed that this should be so. Mr. Whitehead had deplored the fact that the veterinary inspector had to be appointed as Inspector of Nuisances in order to enable him to inspect meat intended for food. Two years ago he, Mr. Lloyd, took this matter to the Royal College of Veterinary Surgeons and tried to get it in the Bill, but was unsuccessful, but in 1912 the corporation of Sheffield had a Bill before Parliament and, at his instigation, a clause was inserted similar to one in operation in Swansea, which gives the veterinary inspector the same powers under the Public Health Acts as the Medical Officer of Health has in regard to the inspection of meat.

No doubt there was a difficulty, as mentioned, in markets where fat and store stock were dealt with at the same time. He believed the same difficulty arose in Hull, and he was informed that they had now separate markets for fat cattle and store stock.

In speaking of "barrel chest," Mr. Whitehead forgot to mention an important matter in regard to disease of the thorax—that is the habit of turning out of the elbows. The presence of tympany is often indicative of foreign bodies.

Mr. BURDRED sympathised with Mr. Whitehead in regard to the operation of the Tuberculosis Order, with which he had had considerable experience. His difficulty, and probably that of other cattle market inspectors, was that the tuberculous udders examined are in the early stages with only the higher part affected.

In regard to emaciation his difficulty was to persuade local authorities to take on decided cases and pay compensation for them. He took advantage of a clause which says that when an animal is detained the owner can, if he chooses, have the animal slaughtered without waiting for valuation or completion of the diagnosis.

He also wished to refer to the difficulty of examining cows overstocked with milk, and mentioned a cow which he had seen in the morning without noticing anything wrong, and a few hours after the animal had left the market and been milked he found marked induration of one quarter of the udder.

Mr. MATTINSON thought it was lowering for a veterinary inspector to have to be appointed as Inspector of Nuisances before he could inspect; and he hoped the Council move in the matter.

He was interested to hear that John's disease was not noticed in Irish cattle, and although he had seen many cattle of this breed he had never observed the disease in them.

He would have liked to hear more about brain symptoms and their connection with tuberculosis.

Mr. BRIDGE also spoke of the difficulty of inspection of cattle for tuberculosis of the udder whilst the cattle were in the market. He mentioned the case of a cow bought in the market with which he is connected. The purchaser took the cow home in good faith and after milking found one udder much enlarged. This was at first attributed by the farmer to irritation produced by the milk, but the udder remained enlarged and he notified the occurrence to the local authority. The animal was tested with tuberculin and reacted. On being slaughtered all four quarters were absolutely filled with tubercle, though there was no special enlargement of the mammary gland.

Mr. BRITTELBANK thanked Mr. Whitehead for the very practical manner in which he had placed his material before them. Mr. Whitehead had had a vast amount of experience in one of the largest cattle markets in the country, and must have accumulated an enormous amount of material. Speaking from memory he did not remember having seen any paper dealing with this subject, and thought it of sufficient importance to break fresh ground by seeing the difficulties met with by an inspector in inspecting live animals in markets.

He had often visited the market in which Mr. Whitehead was engaged, and could sympathise with him in his work. Salford could be congratulated on having an inspector with a temperament like Mr. Whitehead's.

There are one or two points illustrating the difficulties that a man may meet with in the examination for disease, and one which he had mentioned a good many times in connection with young store stock suffering from parasitic conditions which are fairly common. He recollected, some years ago, in connection with a herd which is kept free from tuberculosis, being informed by the farmer that a lot of young cattle (12 to 18 months old) were extremely emaciated, and two had died. The bodies of these two were disposed of before a post-mortem examination could be made. The animals were out in outlying pastures. When seen, they presented every symptom of tuberculosis; alternatively was the possibility that they had John's disease. There was something like twenty of them, bred from good stock, and they were recruits for the herd which had to be guaranteed free from tubercle, so that the matter was important. He had them brought up, examined them carefully, and in a few cases found evidence of lung mischief. They were tested with tuberculin but without a single reaction. They improved a little on the dry diet given when they were housed, and by a process of diagnosis by exclusion he decided they were suffering from gastric parasitism. They were treated for this with Thymol, and improvement commenced fairly soon. All got perfectly well, and the lung symptoms disappeared during convalescence. They were tested again a few months afterwards and all passed. He mentioned this to show what a man could meet with in country districts and how difficult it was for an inspector to decide in such cases. He had made rectal examinations, but found on the whole that while some might be enthusiastic about it, to diagnose mesenteric and intestinal tuberculosis, he was not quite so keen, and in the majority of cases there is nearly always sufficient evidence elsewhere.

Meningeal tuberculosis had been referred to, and no doubt if careful post mortem examinations were made much more useful evidence would be collected. Personally, when examining cattle he always looked out

for any departure from the normal, no detail being too trivial to be noted. Peculiarities of gait, jerky flexion and extension, particularly of the fore limbs, the way the animal's head is carried, are all valuable pointers in meningeal tuberculosis. He had seen a fair number of cases and confirmed them at post-mortem.

He did not want to criticise the Tuberculosis Order at all. Difficulties will crop up, but it is admitted by the Board of Agriculture that the Order is an experiment.

Emaciation is a matter of some difficulty. He did not see much difficulty in defining emaciation in animals other than milking cattle, but in regard to these there was difference of opinion. Channel Island cattle, for instance, are almost continually in a condition that one might say was emaciation. If the Order is to be simplified, a clause should be inserted that if in the opinion of the inspecting officer the animal is suffering from emaciation his decision should be final. This would add to the efficiency of the Order and would not allow of these disputes and appeals. Much good could be got out of the Order if administered properly, and with sympathy for the farmers.

He would like to lay stress on one point, that is that every market should have a proper inspection lair with every convenience for the examination of animals. Every officer should be able to require the owner to move an animal to such lair for proper inspection. The difficulties at present are so great as to make examination almost valueless. Big markets should be fully equipped, not only with an inspection lair but should also have proper accommodation for making post-mortems, and a laboratory. Veterinary inspection had come to such a pitch that there should be the necessary equipment for it.

Referring to over-stocking, he said that, as carried out in a large number of markets, it was grossly unfair to the purchaser.

Mr. WHITEHEAD, in reply, said he was pleased at the discussion, and replied to the various points mentioned. Referring to the turning out of the elbows in cases of tuberculosis of the chest, he had always looked for this sign, but it was not always present when he expected it to be. His experience of brain symptoms had been in young stock, and in these he found carrying their heads up, or having a stringhalt action. He had not found them in older animals. The cases where he noticed brain symptoms were usually generalised tuberculosis all through the carcass.

He stated that Prof. Delépine drew a connection between the pharyngeal glands and tuberculosis of the brain, and had tried to reduce the condition. He (Mr. Whitehead) had taken a head to him in which it was found.

The question of over-stocking was an important one, and might be discussed again. Cows were found in the market that had not been milked for nearly 24 hours, and it was difficult to differentiate between discomfort and pain.

Mr. LLOYD moved a hearty vote of thanks to Mr. Whitehead.

Mr. TAYLOR had much pleasure in seconding. The paper had been most interesting, and had been valuable because of the remarks it had drawn from other inspectors. To him it was evident that as time goes on further legislation and further powers must be granted to veterinary inspectors of markets and of meat. That will come in due course, and the sooner the better.

Pathological Specimens. Very interesting specimens were exhibited as follows:—Mr. A. M. MUNRO brought forward one of a very interesting character, viz., cloven feet in an ox. He believed that this case had perhaps been recorded in the veterinary press, but he thought it

of sufficient importance to bring before the members who appreciate it.

Mr. BURNDEED mentioned that he had on one occasion seen a curious specimen of a pig with three feet non-cloven, and the other normal.

Mr. RICHMOND (Bury) also submitted an interesting specimen of the larynx of a horse showing well-developed tumour on the epiglottis.

A hearty vote of thanks to the retiring officers brought the meeting to a close.

J. W. BRITTLEBANK, Hon. Sec.

Cruelty to a Mare.

Before the Hull Bench on Tuesday, January 6th, Edward Winn was summoned for cruelty to a mare on the 17th November.

Lieut.-Col. Seaward Longhurst, F.R.C.V.S., of 174, Beverley Road, stated he saw defendant driving his cab on the morning of the 17th November. Noticing the appearance of the mare, he informed P.C. Smith, who accompanied him to the defendant's stable in Charles Street. He (witness) examined the horse, and found it to be lame in both fore limbs, and acutely lame in the near fore-leg. The mare was evidently suffering pain.

Defendant, asked if he had anything to say, said he had been driving for 63 years, 55 years of which had been in Hull.

The Chairman, addressing the defendant, said he had evidently driven the mare so as to cause it great pain.

A fine of 30s., including costs, was imposed.—*Daily Mail* (Hull).

The Docking of Horses.

A meeting convened by the National Equine Defence League was held in Caxton Hall, Westminster, on 12th inst., to call public attention to the Bill to prohibit the docking of horses, which will be introduced into Parliament next Session, and to the necessity of appointing an adequate number of inspectors for ponies in mines.

Mr. R. B. Cunninghame-Graham, who presided, said that it was untrue that long tails increased danger in driving. Docking was a mere matter of fashion, and the operation was most cruel.

Mr. J. Sutcliffe-Hurndall, M.R.C.V.S., described the operation of docking, which caused much pain and suffering. So convinced was he of the useless cruelty of docking that he had for the last 23 years refused to perform the operation.

Mr. W. A. DellaGana, F.R.C.V.S., said that the operation could be carried out painlessly when there was necessity for it. The cruelty arose from the manner in which the mutilation was done by horse dealers, grooms, and others.

Mr. J. Lee Osborn suggested amendments to the Bill to allow the operation to be performed by a skilled operator for sufficient reason, for inserting a maximum penalty, and for making owners of the animal liable as accessories to the offence.

Mr. F. A. Cox (Hon. Sec.) gave instances of cruelties inflicted upon ponies in mines, and had the support of Mr. R. Smillie (President of the Lanarkshire Miners' Union) on a resolution which was passed unanimously, calling on the Home Secretary to appoint a sufficient number of inspectors to ensure the proper treatment of the animals.—*The Times*.

DISEASES OF ANIMALS ACTS 1894 to 1911, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.				Out-breaks	Slaugh-tered.*
Gr. BRITAIN.											
Week ended Jan. 10	22	23			2	2	77	150	9	43	597
Corresponding week in											
1913 ...	16	21			3	24	78	206	11	48	722
1912 ...	23	26			2	13	162	490	23	54	551
1911 ...	22	23			4	19			41	35	447
Total for 2 weeks, 1914	42	43			5	20	144	298	18	91	887
Corresponding period in											
1913 ...	27	35			8	39	168	412	26	73	1373
1912 ...	42	50			8	24	382	1094	43	103	944
1911 ...	32	33			9	27			68	66	763

† Counties affected, animals attacked: London 2.

Board of Agriculture and Fisheries, Jan. 13, 1914

IRELAND.		Outbreaks									
Week ended Jan. 10		...	...	...	...	...	...	15	2	26	
Corresponding Week in	1913 ...	...	...	...	...	...	...	12	10	9	42
	1912 ...	...	...	...	...	...	...	19	2	83	
	1911 ...	...	...	...	...	...	...	24	6	99	
Total for 2 weeks, 1914		...	...	...	...	...	...	2	27	3	26
Corresponding period in	1913 ...	...	...	...	...	...	...	21	31	14	77
	1912 ...	1	1	...	...	...	...	4	40	5	100
	1911 ...	...	...	...	...	...	...	2	32	10	184

* These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Jan. 12, 1914

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

New Arsenical Compounds.

MOUNEYRAT (*Presse Méd.*, 1913, p. 388) has endeavoured to discover arsenical compounds which shall be free from the neurotropic and vaso-dilator effects of salvarsan, and also possess an energetic parasitropic action in spirochaetes and trypanosomes. The desiderata seem to be obtained with two new bodies, which he terms "galyl" and "ludyl," the former being tetraoxy-diphosphaminodiarsenobenzene; the latter, phenyldisulfaminotetraoxydiaminodiarsenobenzene. These are yellow powders, easily soluble in water. Experiments on animals showed that these bodies have a marked parasitocidal action on *Trypanosoma gambiense*, the spirilla of African recurrent fever and the spirillosis of fowls.

Remarkable results were obtained in 220 cases of human syphilis. Galyl and ludyl may be given by intravenous injection in solution in distilled water. The dose is 45 to 60 cg. for a man, 40 to 50 cg. for a woman. Three injections at intervals of eight days are usually sufficient. The injections are usually well tolerated, and no albuminuria or affection of the optic or auditory nerves were noticed. They can also be given by intramuscular injection in an oily suspension containing 20 to 30 cg. of the drug.—*B. M. J.*

The Election of Council R.C.V.S.

The voting papers to "members residing abroad," numbering roughly 400, will be issued early in February, and will bear only the names of those candidates who have been nominated previous to date of issue.

Veterinary Work in British East Africa.

The Colonial Journal for October, 1913 (Vol. 7, Part 2), says:—"The stock industry of British East Africa is paramount, and receives a great amount of official attention; indeed, it is claimed that no other country in the world has so readily grasped the necessity for veterinary investigation and control. The laboratory is performing operations on a large scale."

THE H. & A. S. AND THE INTERNATIONAL CONGRESS.

At the annual general meeting of members of the Highland and Agricultural Society held on Wednesday 7th inst., in the Society's premises, George IV. Bridge, Edinburgh, the Earl of Dalkeith in the chair:

Dr. Shirra Gibb moved that a donation of £25 be given towards the organising fund of the Tenth International Veterinary Congress to be held in London in July this year.

Mr. Scott Plummer seconded, and this was agreed to.

A constable who arrested the prisoner was the complaining witness. "Your honour," began the policeman, "how would ye like to be called an Irish goat?"

The magistrate smiled a little and observed that the case could hardly be settled on such procedure. "Besides," he added, "I am not Irish."

"Suppose he called ye a German goat?"

"The same objection lies. I am not German."

"Well, then, suppose he called ye the goat that ye are?"

Hunting Memorial Fund.

Subscriptions received up to 7 p.m., Jan. 14th, 1914:

	£	s.	d.
Amount previously acknowledged	153	18	0
Mr. Harry Edie, Southampton	10	6	
F. W. Stanley, 65 Eltham Road, S.E.	2	2	0
Nicholson Almond (F), Kingston	1	1	0
Harold D. Jones, Camberwell, S.E.	10	6	
Sydney H. Slocock (F), Hounslow	1	1	0
Capt. James Harrison, A.V.C.	1	1	0
Mr. R. C. Tennant (F), Windsor	1	1	0
Messrs. Willows, Francis, Butler & Thompson	1	1	0
Mr. W. S. Mulvey (F), Chelmsford	1	1	0
E. J. Humphrey (F), L.C.C.			
Vety. Inspector, Catford Hill, S.E.	3	3	0
H. Caulton Reeks (F), Spalding	1	1	0
S. E. Sampson, Sheffield	10	6	
Chas. H. Huish, 12 Red Lion Square, W.C.	1	1	0
Jas. Peddie (F), Perth	1	1	0
W. A. Taylor (F), Manchester	1	1	0
J. McKinna (F), Huddersfield	1	1	0
	£172	5	6

HENRY GRAY, Hon. Sec. & Treas.

23 Upper Phillimore Place, London, W.

Cheques endorsed "Hunting Memorial Fund" and crossed "The London, City and Midland Bank, Ltd

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

INDIA OFFICE, Jan. 9.

The following appointments have been made in India.—

QUARTERMASTER-GENERAL'S BRANCH.

To be a Staff Veterinary Officer, and Personal Assistant to the Director-General, Army Remount Department:—

Capt. E. S. Gillett, A.V.C., vice Maj. W. F. Shore, A.V.C. Dated Nov. 20, 1913.

Personal.

Mr. T. R. JARVIE, M.R.C.V.S., of Jackson Street, Gateshead, accompanied by an employe, was on the point of driving his motor car across Cowen's Crossing, High Blaydon, on Saturday, 10th inst., when one of Messrs. Priestman's locomotives, leaving the North Eastern Railway Company's siding, came up and wrecked the car. Mr. Jarvie was brought home by Mr. Dixon, of Blaydon, in his motor car. Mr. Jarvie's right leg is crushed and fractured under the knee. He is progressing as well as can be expected and there is no sign of any complication.

The late Sir GEORGE BARHAM, of Wadhurst, Sussex the founder and for many years managing director of the Dairy Snpply Co., left estate valued at £259,222.

Original articles and reports should be written on one side of the paper only and authenticated by the names and addresses of writers, not necessarily for publication.

Communications for the Editor, to be addressed 20 Fulham Road, London, S.W.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1333.

JANUARY 24, 1914.

Vol. XXVI.

HONORARY ASSOCIATES.

Some time ago the Council decided to elect a number of new Honorary and Foreign Associates on the occasion of the International Veterinary Congress. Following the procedure ordained by the bye-laws, a selection has been made, and a dozen names are now suspended in the Council Chamber for election in April. One is that of Sir Thomas Elliott, and no English layman better deserves the compliment from our profession. The others are those of American and Continental authorities in veterinary science.

So far as it goes, the list is well chosen, but some of the names in it should have been singled out for the honour before—such men as Jensen and Ostertag, for instance, surely ought to have been amongst our Honorary Associates years ago. And the list might very well have been longer.

For a whole generation the Honorary Association of the R.C.V.S. has been very sparingly bestowed. Of our 56 Honorary Associates, fully 35 were elected in 1880. Four more date from 1883, and one of those elected since—Sir Christopher Nixon—resides upon our own shores. We therefore have only 16 foreign veterinary authorities among our Honorary Associates who have been elected within the last thirty years. In face of these figures, the proposed eleven additions certainly seem rather few. We have no wish to see the honour become a cheap one, and perhaps it may have been awarded rather too freely in 1880—but since then we have been going to the other extreme.

HORSE v. MOTOR.

In veterinary addresses we very frequently find allusions to the displacement of horseflesh by motors; but we do not often meet with any very careful examination of the question, nor any just estimate of how rapidly that displacement is progressing to-day, as compared with the beginning of the century. An analysis of the present headway of the motor against the horse, and of the horse's prospects of still holding his own in the classes of work for which he has not yet been displaced, could form the basis of an interesting address; and, if taken up, it may lead to conclusions not altogether pessimistic.

UNCOMMON RENAL CONDITIONS IN CALVES.

In the examination of carcasses of veal the umbilicus, joints and kidneys should receive special attention.

Whilst examining a large amount of veal I came across two conditions of the kidney about which little has been written.

FIBROPLASTIC NEPHRITIS.

This name was given to the condition by Kitt, but it is erroneous, as nephritis is absent. The condition is practically only met with in calves and both kidneys are as a rule affected, the lesions being in the form of disseminated white patches on the surface.

Sometimes there are depressions on the surface of the kidney over the region of the lesions; at other times the kidney is atrophied. One may also meet a hypertrophied kidney with no patches visible to the naked eye, but on microscopical examination it is found to be affected with fibroplastic nephritis.

On section the white spots are wedge shaped, with the base of the wedge towards the cortex. This shape gave rise to the belief that the cause was embolism, and accordingly the term embolic multiple nephritis arose. Microscopic examination of a section shows an imperfect cellular fibrous tissue which displaces and invades the surrounding structures. A few leucocytes may be present.

The cause of this condition is obscure; it has been stated to be of microbic origin, but this requires proof. Some hold that it is caused by the excretion of toxic substances through the kidneys and that those toxic substances arise from existing intestinal lesions. The view that it is the result of incomplete development is held by some observers. Another view is that the condition is caused by high feeding. In nearly every case seen by me the carcase has been well nourished and fit for food.

One must be careful not to confuse this condition with tuberculosis.

MELANOSIS.

The majority of the calves found by me to have melanotic kidneys were from three to six weeks old, in good health and condition, and the pigment as a rule is confined to the kidneys. Brown and black pigment is observed. The kidneys are usually of normal size and consistency and the pigment is found in the cortical portion, the pelvis being normal.

On microscopical examination no pigment is usually found in the malpighian corpuscles, but it

appears to be confined to the convoluted tubes. The cell elements undergo fatty degeneration, partial necrosis, and epithelial hypertrophy. The condition in adults is rare.

Some observers state that the pigment in the kidneys is the same as that of the bile.

W. J. YOUNG, F.R.C.V.S., D.V.S.M.

AN UNUSUAL DISLOCATION.

Subject. A bay hunter gelding, four years old, the property of, and ridden by J. B. Jarmay, Esq., of Bulkeley Hall, Malpas.

History. In a run with the Cheshire hounds at Rushton, Tarporley, on the 14th, the gelding jumped quite a small fence. Mr. Jarmay felt her give way, and on dismounting (the horse did not fall at once) he saw a bone protruding from each hind leg.

I arrived within five minutes of the accident; the horse had then been shot. Both metatarsal bones were protruding about four inches through the skin on the anterior aspect of the fetlock; I found the capsular and lateral ligaments of both fetlocks ruptured. On the off leg the suspensory was divided about its lower third, the extensor and flexor tendons being intact and having slipped to the off side. On the near leg the extensor tendon was ruptured, the suspensory and flexors being intact.

T. O. RICHARDSON, F.R.C.V.S.

Tarporley, Jan. 14.

ABSTRACTS FROM FOREIGN JOURNALS

A BOVINE DISEASE CAUSED BY THE BACILLUS NECROPHORUS.

M. Balog, a Hungarian veterinary surgeon, describes (*Allatorvosi Lapok*) a disease which he has observed for some years in cattle, and which he has hitherto regarded as an atypical form of bovine malignant catarrhal fever. In most cases the disease appears suddenly, with acute symptoms and high fever. The eyelids are swollen, the conjunctivæ are injected, and the visible mucous membranes are bright red. Loss of appetite and complete apathy are also observed, with, in many cases, necrotic ulcers of the mucous membrane of the mouth. The disease appears sporadically, and is not transmissible. In its further course, symptoms indicating gastric and intestinal inflammation are observed. The prognosis is unfavourable in most cases, the patients die if they are not slaughtered.

Post-mortem, in addition to the appearances mentioned above, necrotic patches which reach up to the size of a thaler (coin) are found in the rumen, omasum, and abomasum, and also upon the mucous membrane of the small intestine.

The *bacillus necrophorus* was demonstrated in the ulcers at the Institute of Pathological Anatomy

of the Veterinary High School of Budapest. Probably the bacillus is not the immediate cause of the disease, but only a secondary infection attacking an organism weakened by other causes. In the cases of necrobacillosis hitherto described (Miessner, Bartels, Hasenkamp) broncho-pneumonia occurs. In Balog's cases, alterations of the lungs were not demonstrable.—(*Berliner Tier. Woch.*)

FIBROLYSIN IN STRANGLES.

Michael Schmidt reports (*Allatorvosi Lapok*) that he has used Merck's fibrolysin for a variety of conditions. Amongst these are the connective tissue proliferations and swellings which not infrequently persist in strangles after the opening of the abscesses. The result in these cases was striking, for after the subcutaneous injection of the contents of a phial (= 11.5 c.c. of fibrolysin) the swelling retrogressed in a few days without leaving a trace behind. In addition, Schmidt has used fibrolysin with good results in different cutaneous thickenings, sclerosis and elephantiasis, inflammations of the tendons and tendon-sheaths, and other conditions. Its use is very simple and convenient, for it can be introduced subcutaneously as well as intravenously or intramuscularly. It causes no undesirable by-effects or complications.—(*Berliner Tier. Woch.*)

OPTIC NEURITIS IN HORSES.

A. Mayer and Erich Hieronymi record (*Monatshefte für Prakt. Tierheilkunde*) the two following cases.

A thoroughbred stallion, seven years old, which some time before had recovered from a severe bilateral pleuro-pneumonia, suddenly refused food and showed paralysis of the penis.

The next day, the horse was blind in both eyes. Externally, no lesions of disease of any kind were perceptible upon the eyes. Ophthalmoscopic examination showed that the optic papilla had disappeared, and that in its place was a snow-white body, dimly lustrous, appearing like little lumps of snow balled together. The authors also compare the appearance to that of rice grains. The alterations were similar in both eyes, and the power of vision had disappeared in both.

Treatment consisted in the subcutaneous injection of $\frac{1}{2}$ grain of arecolin hydrobromide at intervals of two days, and the simultaneous instillation of atropine-cocaine solution (1 part each to 100 parts of water) into the conjunctival sac. The penis was rubbed daily with camphor ointment.

On the seventh day the paralysis of the penis had disappeared. The new formations in both eyes lessened, became detached, and floated in the vitreous humour. The blindness remained complete. The diagnosis was "neuritis optica exudativa bilateralis."

The second case was an eight-year-old gelding, which, according to the history, suddenly became blind without any preceding illness. Clinical examination revealed no symptoms of either external or internal disease. No abnormality in the eyes could be demonstrated by external examination. Ophthalmic examination showed, in place of the optic papilla, gleaming blood-red spots of

irregular form, between which lay white marrow like looking bodies the size of grains of rice. The condition was alike in both eyes, and the horse was completely blind.

Post-mortem examination revealed the rice-like and fungous eminences which had been shown by the ophthalmoscope. They were extremely flaccid, and were not united to the tissues supporting them. Microscopically they appeared amorphous, and disintegrated in preparation. Histological examination of longitudinal and transverse sections of the optic nerve showed accumulations of round cells in the nerve sheaths and nerve bundles—the picture of a neuritis optica.—*Münchener Tier. Woch.*

W. R. C.

TENTH INTERNATIONAL VETERINARY CONGRESS, LONDON, AUG. 3—8, 1914.

A meeting of the Organising Committee was held at 10 Red Lion Square, W.C., on Friday, January 9th, 1914. Present: Sir John M'Fadyean in the Chair, Messrs. Almond, Banham, Barrett, Dr. Bradley, Messrs. Bullock, Carter, Clarke, Crabb, Garnett, Hobday, Lawson, Prof. Mettam, Col. J. Moore, Mr. Price, Major-Genl. Pringle, Messrs. Share-Jones, Slocock, Maj.-Genl. F. Smith, Sir S. Stockman, Mr. Sumner, Major A. G. Todd, Messrs. Trigger, Willett, and Prof. Wooldridge.

Minutes. The minutes of the previous meeting were read and confirmed.

Absentees.—Apologies for absence were received from the following: Messrs. J. Dunstan, H. J. Dawes, F. W. Emery, Prof. Gofton, Messrs. Henderson, J. W. McIntosh, T. E. Jones, J. S. Lloyd, G. P. Male, J. Malcolm, A. I. MacCallum, C. Rutherford, W. A. Taylor, C. Stephenson, P. Wilson, S. Villar.

Invitations to Congress. The HON. SEC. reported that, in addition to the invitations sent out by the Foreign and Colonial Officers, there still remained the question of the invitations to be sent to Veterinary Schools which were not Government Schools, to Municipalities, to Agricultural Societies, etc.

The HON. TREASURER stated that he had already written to several Breed Societies and others, informing them that they would in due time be invited to send delegates to the Congress.

The PRESIDENT: I think we should not propose to cast our net so wide as appears to have been done by another Society whose papers I have before me. We have to remember that every delegate appointed will involve us really in expense. The will get the full privileges of membership for the sum of £1, but that will not really cover the expenses. I do not therefore think we should address invitations to every town or county council in the Kingdom, but I certainly think we ought to issue invitations to schools as suggested, and to all the important agricultural associations and breed societies. We should like to have them send delegates.

On the proposition of Mr. Share-Jones, seconded by Mr. Slocock, it was resolved that invitations be issued, signed by the President and Secretary, to all schools not likely to have been invited by the Foreign or Colonial Offices, and to all important agricultural and breeding societies in Great Britain.

REPORTERS.

The following report of the Sub-Committee for the selection of reporters was received and adopted:—

A meeting of the Committee appointed to select

reporters was held at 10, Red Lion Square, W.C., on Friday, January 9th, 1914. Present: Sir John M'Fadyean in the Chair, Messrs. Banham, Carter, Garnett, Prof. Mettam, Mr. Price, Maj.-Genl. F. Smith, Sir S. Stockman, Major A. G. Todd, Prof. Wooldridge.

Minutes. The minutes of the previous meeting were read and confirmed.

Reporters. The HON. SEC. reported the result of correspondence with the reporters invited, most of whom had accepted. In the cases of refusal he had written to others on the list recommended by the National Committees, and the list was now as follows:—

GENERAL MEETINGS.

1.

Official Opening.

2.

Foot-and-Mouth Disease.

REPORTERS [Those marked * have not yet replied]:—

Herr Geheimer Regierungsrat Dr. Nevermann, Berlin.
M. E. Leclainche, Inspecteur General Chef des Services Sanitaires, au Ministère de l'Agriculture, Paris.

* Dr. Mohler, United States Department of Agriculture.
M. le Docteur Remmelts, Chief Inspector of the Veterinary Service, The Hague.

Herr Prof. E. Hess, in der Fakultät der Veterinarmedizin, Universität, Bern.

Prof. A. E. Mettam, Principal, Royal Veterinary College of Ireland.

Dr. Josef Rudovsky, Landes Veterinäreferent, Brunn,

3.

Tuberculosis.

Herr Prof. Dr. Eber, Direktor des Veterinar Instituts, eipzig.

M. le Prof. Vallée, Directeur de l'Ecole Veterinaire, Alfort.

Prof. Sir John M'Fadyean, Principal, Royal Veterinary College, London.

M. G. Regner, Veterinary Department, Ministry of Agriculture, Stockholm.

M. le Prof. de Jong, University, Leiden.

4.

Epizootic Abortion.

Herr Regierungsrat Prof. Dr. Zwick, Kaiserliche Gesundheitsamte, Berlin.

M. le Prof. Moussu, l'Ecole Vétérinaire, Alfort.

Herr Sanitätstierarzt Sven Wall, Öffentlicher Schlachthof, Stockholm.

Sir Stewart Stockman, Chief Veterinary Officer, Board of Agriculture, London.

5.

Public Control of the Distribution and Sale of Milk in the Interests of Public Health.

Dr. A. D. Melvin, Chief of the Bureau of Animal Industry, Washington.

Herr Geheimer Regierungsrat Prof. Dr. von Ostertag, Direktor der Veterinarabteilung des Kaiserlichen Gesundheitsamtes, Berlin.

M. S. P. Nystedt, Erste Stadtierarzt, Stockholm.

Mr. J. W. Brittlebank, D.V.S.M., M.R.C.V.S., Public Health Department, Manchester.

6.

Closing Meeting.

SECTION 1. [Veterinary Science in Relation to Public Health].

(1) Meat Poisoning—Its Pathogenesis and the Measures necessary to guard against it.

Herr Prof. Bongert, Tierärztlichen Hochschule, Berlin.
Schlachthofdirektor Dr. Hans Messner, Karlsbad.

* Dr. Gillaume. Directeur de l'Abattoir de la Ville de Nice.

(2) General Principles to be Observed in the Inspection of Carcasses and Organs of Tuberculous Animals with a view to Determine their safety as Articles of Human Food.

M. le Dr. Stubbe, Inspecteur Veterinaire General au Ministère de l'Interieur, Brussels.

M. Cesari, Vétérinaire Sanitaire de la Seine, Paris.

Herr Obertierarzt Dr. Nieberle, Hamburg.

*Herr Sanitätsveterinar Hy. Hansson, Stockholm.

(3) Disinfection of Waggon.

M. le Prof. Dr. E. Bidart, à la Faculté de Médecine Vétérinaire, Université, Buenos Aires.

Herr Regierarzngnat Dr. Titze, Kaiserliche Gesundheitsamte, Berlin.

M. Rabieaux, Inspecteur General des Services Sanitaires aux Ministère de l'Agriculture, Paris.

*Prof. Meloni, Naples.

SECTION II. Pathology and Bacteriology.

(1) Johne's Disease.

M. le Dr. Olaf Bang, Copenhagen.

Herr Prof. Dr. Miessner, Tierärztliche Hochschule, Hannover.

Mr. A. L. Sheather, B.Sc., M.R.C.V.S., Royal Veterinary College, London.

(2) Bovine Piroplasmiasis [European].

Herr Prof. Dr. Knuth, Abteilungvarstcher im Hygienischen Institut, Tierärztliche Hochschule, Berlin.

M. le Prof. S. von Ratz, l'Ecole Vétérinaire Supérieure, Budapest.

Mr. W. G. Wragg, M.R.C.V.S., Laboratory of the Board of Agriculture, London.

(3) Ultra-visible Viruses.

Dr. K. F. Meyer, University of California, U.S.A.

M. le Prof. Panisset, l'Ecole Vétérinaire, Lyon.

*Herr Dozent Dr. Pfeiler, Leiter der Abteilung für Tierhygiene am Kaiser Wilhelm Institut, Bromberg.

(4) Distemper—Etiology and Vaccination.

Herr Prof. Dr. S. Sigismund Markowski, Tierärztliche Hochschule, Lemberg.

M. Carré, Chef de Laboratoire au Laboratoire des Recherches du Ministère de l'Agriculture, l'Ecole Vétérinaire, Alfort.

SECTION III. Epizootiology.

(1) Anthrax.

Dr. W. H. Dalrymple, Louisiana State University, U.S.A.

Herr Dr. Aladar Lukacs, Laboratorium für Schutzimpfstoffe, Budapest.

Herr Rektor und Prof. Dr. J. Szpilman, Tierärztliche Hochschule, Lemberg.

Major Holmes, Imperial Bacteriologist, Muktesar, India.

(2) Swine Fever.

Dr. Marion Dorset, U.S.A. Department of Agriculture, Washington.

Herr Holrat Rektor und Prof. Dr. Hutyrá, Tierärztliche Hochschule, Budapest.

*Herr Bezerkstierarzt Dr. R. Frauenberger, Friestadt, Austria.

*Herr Dr. Glässer, Repetitor an der Tierärztlichen Hochschule, Hannover.

(3) Glanders.

M. M. de Roo, Inspecteur Vétérinaire Principal, au Ministère de l'Agriculture, Brussels.

M. Drouin, Vétérinaire Directeur de la Cavalerie de la Cie Generale des Voitures de Paris.

Herr Prof. Dr. J. Schnürer, Tierärztliche Hochschule Vienna.

Mr. J. R. Jackson, M.R.C.V.S., Board of Agriculture, London.

Herr Prof. Dr. Peter, Landestierarzt, Hannover.

(4) Sarcoptic Mange of the Horse.

M. le Vétérinaire Principal A. Barrier, Paris.

Col. Butler, War Office, London.

Herr Landesveterinäreferent Theophil Halaki, Czernowitz, Austria.

SECTION IV. Veterinary Medicine and Surgery.

(1) Anæsthesia.

M. le Prof. Hendricks, l'Ecole Vétérinaire, Brussels.

Dr. L. A. Merrill, Chicago, U.S.A.

Herr Prof. Vennerholm, Tierärztliche Hochschule, Stockholm.

Prof. G. H. Wooldridge, Royal Veterinary College, London.

(2) Laminitis.

M. le Prof. Liénaux, l'Ecole Vétérinaire, Brussels.

M. le Vétérinaire Principal Joly, du 9ième Corps l'Armée, Tours.

Prof. James Macqueen, Royal Veterinary College London.

(3) Surgical Treatment of Roaring.

Herr Prof. Dr. Eberlein, Tierärztliche Hochschule, Berlin.

Dr. W. L. Williams, Cornell University, U.S.A.

M. le Prof. Dr. Fontaine, l'Ecole de Cavalerie, Saumur.

Mr. F. T. G. Hobday, F.R.S.E., F.R.C.V.S., London.

(4) The Use of Drugs in the Treatment of Disease caused by Nematode Worms.

M. le Prof. Van den Eckhout, l'Ecole Vétérinaire, Brussels.

M. le Prof. Railliet, l'Ecole Vétérinaire, Alfort.

Prof. J. F. Craig, M.A., M.R.C.V.S., Royal Veterinary College of Ireland, Dublin.

M. le Prof. Perroncito, R. Università di Torino, Instituto di Parassitologie, Turin.

SECTION V. Tropical Diseases.

(1) Diseases Transmitted by Ticks; their Classification, Treatment, and Prevention.

* Dr. D. E. Salmon, Washington, U.S.A.

M. le Prof. J. Lignières, Faculté de Médecine Vétérinaire de l'université, Directeur de l'Institut National de Bacteriologie, Ministère de l'Agriculture, Buenos Aires.

Sir A. Theiler, K.C.M.G., Director of Veterinary Research, Transvaal.

Mr. C. E. Gray, M.R.C.V.S., Principal Veterinary Surgeon, Transvaal.

*Dr. Paulo Parreiras Horta, Directoria, Service de Veterinaria, Rio de Janeiro.

(4) Diseases Transmitted by Winged Insects; their Classification, Treatment, and Prevention.

M. Cazalbou, Vétérinaire en 1ère au 70ième d'Artillerie, Rennes.

Mr. R. E. Montgomery, M.R.C.V.S., Veterinary Bacteriologist, Department of Agriculture, Nairobi, British East Africa.

*Dr. L. O. M. Howard, Bureau of Entomology, Department of Agriculture, Washington, U.S.A.

*Dr. Pinto Guedes, Rio de Janeiro.

*Dr. Christino Cruz Filho, Rio de Janeiro.

Prof. A. Lanfranchi, Directeur Institute de Pathologie Vétérinaire, Parma, Italie.

[The list was adopted].

The Hon. Sec. asked for authority to print the list of reporters, and to issue it to the National Committees, together with a programme of the Congress. Agreed.

Lantern. It was resolved that arrangements should be made for the provision of a lantern for the purpose of illustrating the papers where necessary.

The Hon. Sec. reported that he had received applications from certain gentlemen for permission to read papers unofficially on subjects other than those in the programme, and on the motion of Mr. Lawson, seconded by Mr. Barrett, it was unanimously decided that no additions be made to the programme as already arranged.

Excursions. The question of the arrangement of excursions, etc., was considered, and it was ultimately resolved that the matter be left in the hands of the Hall Committee, with the addition of Prof. Hobday.

Honorary Treasurer's Report. Mr. GARNETT reported that at the previous meeting he had stated that the sum of £1,060 was at that time in the bank. As a result of the appeals issued by Sir John M'Fadyean to the profession, and by himself to members of the Royal Agricultural Society of England, whose names had been kindly furnished by Mr. McRow, and to Agricultural Societies, he had very greatly increased the number of individual members of the profession who had subscribed, and he had also received considerable sums from the other sources mentioned.

The number of members of the profession who had subscribed had more than doubled in the three months, and with the addition of Officers of the A.V.S. and A.V.C., there was now about 700 on the list of subscribers. The total amount paid or promised up to date was about £3,800, of which there was actually paid into the bank £2,700, including, of course, the £500 of the reserve fund. He still wished to continue his appeal for there yet remained the sum of £200 to be collected before the amount of the minimum of £4,000 was reached. He wished to thank *The Veterinary Record* for the notice which they had kindly inserted free of charge in their columns, which had been a very great help to him.

Membership Tickets, Entertainments, etc. The question of the printing of the membership tickets, the arrangements of entertainments, etc., was considered and after discussion it was resolved to refer these matters, and all other matters of detail, to an Executive Committee to be composed of the members of the Hall Committee, with added members, as follows: The Chairman, the Hon. Secretary, the Hon. Treasurer, Messrs. Banham, Barrett, Crabb, Hobday, Jackson, Col. Moore, Messrs. MacCormack, Price, Willett, and Prof. Wooldridge, with power to add to their number.

Hall. The following report of the meeting of the Sub-Committee on the selection of a hall for the Congress was received and adopted:—

A meeting of the Hall Committee was held at 10, Red Lion Square, W.C., on Friday, January 9th, 1914. Present: Sir John M'Fadyean in the Chair, Messrs. Banham, Clarke, Garnett, Price, Sir S. Stockman, Mr. Willett, Prof. Wooldridge.

Minutes. The minutes of the previous meeting were read and confirmed.

Hall. The Hon. Sec. reported that arrangements had been completed for the hire of the Central Buildings, Westminster, at a rental which was considered satisfactory.

Insurance. It was resolved that the Hon. Secretary and Treasurer be authorised to take out an insurance policy against all risks arising from the temporary tenancy of the hall.

A discussion arose as to the allotting of space for exhibits, and the selection of firms who were to be allowed to exhibit. On the proposition of Prof. Wooldridge it was resolved that the allotting of space for

exhibits, and the selection of firms, be left in the hands of the Executive Committee.

Assistant Secretaries. The Hon. Sec. reported that, as authorised, he had made the following arrangements for Assistant Secretaries:—

Maj. Todd to take charge of arrangements in connection with the A.V.S. and the A.V.C.

Prof. Wooldridge to take charge of travelling arrangements.

Mr. J. R. Jackson to take charge of hotel accommodation.

Dr. J. McL. McCall to take charge of organising the Ladies' Committee.

Delegates. The Hon. Sec. submitted the following list of countries which had so far promised to send delegates to the Congress:—

The Commonwealth of Australia, Bulgaria, Barbadoes, Belgium, Canada, China, Denmark, Holland, India, Luxemburg, Leeward Islands, New Zealand, South Africa, Western Australia.

It was also resolved that Mr. F. Bullock be appointed paid Assistant Secretary, with authority to obtain any necessary clerical assistance.

CENTRAL VETERINARY SOCIETY.

[NATIONAL V.M.A.—SOUTHERN BRANCH].

The usual monthly meeting was held at 10 Red Lion Square, W.C., on Thursday, January 8th. Prof. G. H. Wooldridge, President, in the chair. The following Fellows signed the attendance book:—Messrs. J. Willett, G. Gordon, M. G. Byerley, J. B. Buxton, Wm. Roots, W. R. Davis, Capt. G. Rees-Mogg, N. Almond, Prof. E. B. Reynolds, F. G. Samson, S. H. Slocock, H. D. Jones, J. W. McIntosh, R. A. Philp, S. L. Slocock, J. A. Gosling, H. J. Parkin, W. R. Clarke, G. Dunlop Martin, W. Perryman, R. Eaglesham, L. Auchterlonie, E. Lionel Stroud, D. H. Wood, J. F. Macdonald, Wm. Willis, H. King, and Hugh A. MacCormack, Hon. Secretary.

Visitors: Messrs. L. Wooldridge, H. H. Curson, R. Finch, P. S. Sparling, H. B. Williams, H. S. Cockburn, and W. H. Wortley.

On the motion of Mr. N. Almond, seconded by Mr. Samson, the minutes of the last meeting were taken as read and signed.

Correspondence. The Hon. Secretary said he had received a letter from Mr. Henry Gray enclosing a circular letter with respect to the Wm. Hunting Memorial Fund, as follows:—

23 Upper Phillimore Place,
London, W.

THE HUNTING FUND.

Dear Sir,

You are probably aware that a movement has been set on foot to raise a fund in recognition of the life and work of the late Mr. William Hunting; and we think you will agree that no man, since our profession was first formed, ever better deserved its gratitude.

The Committee which has been formed to give effect to the proposal has been purposely made large and representative, so as to embrace all sections of the profession. It consists of (1) The Council and Board of Examiners of the R.C.V.S. (2) The Principals and Professors of all English, Scotch, Irish, and Colonial Veterinary Schools. (3) The Presidents and Secretaries of all existing Veterinary Societies throughout the British Empire. (4) All officers of the Army Veterinary Service at home and abroad. (5) All officers of the Indian Civil Veterinary Department, and (6) All veterinary officers of departments of agriculture and sanitation in the British Empire. A small acting

sub-committee of thirteen members (Prof. J. Macqueen, Chairman; Mr. Henry Gray, Hon. Sec. and Treas.; Messrs. Hugh Begg, W. Roger Clarke, J. Emerton, E. Wallis Hoare, R. C. Irving, Hugh A. MacCormack, Sir John M'Fadyean, Capt. G. Rees-Mogg, General F. Smith, Sir Stewart Stockman, and Prof. G. H. Woodbridge) has been appointed to arrange details, while the main decisions regarding the disposal of the Fund will be made by the General Committee.

From the above statement of the constitution of the General Committee you will see that you are yourself one of its members. Whether or not you are able to attend its meetings, we trust you will do all in your power to further the progress of the Fund. It is hoped that every member of the committee will subscribe to the Fund individually, and use his personal influence to induce others to do likewise.

Subscriptions will be welcomed either from societies or individuals, either within or without the profession. They should be sent to Mr. Henry Gray, 23 Upper Phillimore Place, London, W., who asks that cheques should be made payable to the "Hunting Fund," and crossed "The London City and Midland Bank, Kensington Branch."

All suggestions from donors regarding the disposition of the Fund will be welcomed and duly considered.

We are, dear Sir, yours faithfully,

J. MACQUEEN, Chairman.

H. GRAY, Hon. Sec. and Treasurer.

It was moved by Mr. Samson, seconded by Mr. J. Willett, and carried unanimously: "That the Society instruct the Council to make a grant of 20 guineas to the Wm. Hunting Memorial Fund."

The HON. SECRETARY announced the receipt of a letter from the Secretary of the Royal Sanitary Institute asking the Society to send delegates to the Congress to be held at Blackpool, July 6th to 11th.

On the suggestion of the President it was agreed to postpone the appointment of delegates till March or April.

MORBID SPECIMENS.

Mr. W. PERRYMAN said he had a specimen which was not strictly a morbid one, unless it were called a necrosed piece of wood. A client had taken a mare to drive in the country, and during the night she was put in a meadow. After three or four days she was found with a punctured shoulder, believed to have been caused by a gore from a bullock, and was sent back to town by train. On examination he found a punctured wound about 2½ inches long. He inserted his finger and felt a hard substance some three inches higher up, a second wound was made when some of the pieces of wood now exhibited were withdrawn. Feeling that there was still others left, he had recourse to another cut higher up and found another piece of wood 8½ inches long, which had been driven right up to the top of the withers. This, he thought, could not have been done by the mere force of the impact, but must have been caused by the muscular movement of the limb. To his surprise the deeper muscles of the shoulder were not lacerated. The piece of wood was under the panniculus muscle. He thought the piece of wood had been gradually worked up to the top. He believed he had secured good drainage, the wound assumed a healthy appearance and the lameness passed off, but the wound did not close. The first cut had been made on the 6th August, and on the 28th he saw that the wound beneath was quite smooth. He had noticed more than once that where two muscles played over each other, instead of getting granulating surfaces they became smooth, with no tendency to heal. He therefore decided to make a common wound of the three openings by opening from top to bottom. This was done, the wound

being 11 inches long. The surgical wound granulated and healed perfectly. At one time, by the muscular retraction the granulating surface was some three inches wide. This gradually drew together and illustrated how well wounds close when there has been no destruction of tissue. On seeing the mare some ten days ago he observed that the scar was no thicker than the rim of a penny; in fact one would not easily see it without clipping the hair off.

He mentioned the case because it illustrated the importance of making a thorough search of punctured wounds, and not to rely always upon the report of the case given by the attendant. The owner had been perfectly convinced that the animal had been gored.

Mr. N. ALMOND asked whether the foreign body could be felt from the outside?

Mr. PERRYMAN said there was a good deal of swelling at first but no indication of a foreign body.

Mr. SAMSON asked if any explanation could be offered as to how it happened.

Mr. PERRYMAN replied in the negative.

The PRESIDENT was very interested in Mr. Perryman's case and expressed the opinion that that was a kind of case which was much more frequently met with in hunting districts than in towns or the neighbourhood of towns. He had met with similar cases himself in which pieces of stake had been found as deep as a foot from the surface, in such positions as the axilla, and the way in which those large portions left behind had passed the large vessels of the axilla and the brachial plexus had been little short of marvellous. In one case the end of a stake which had been left behind was a foot in length and he had to insert his arm up the wound in the axilla almost to his elbow before reaching it. The only reason it was suspected then, apart from the extreme lameness of the animal, was the fact that the stake had been pulled out by the rider, and on being closely examined a fractured end was exposed, proving pretty clearly that something had been left behind.

Mr. S. H. SLOCOCK said one had often heard it stated by elderly nervous men that it was no good to suture a wound, and that it healed quite as quickly without. To some extent he thought that was correct, but he had not so far lost his nerve as to want to believe in that entirely yet. In the case mentioned by Mr. Perryman it seemed that a wonderfully good healing process was obtained and the fact that the scar was so small had been emphasised.

The PRESIDENT pointed out that a more common example of the advantages that might result from not suturing deeper wounds were to be found in the case of operations of the larynx, where the external wound was never sutured, and it held up beautifully; it was most difficult to find a scar although at one time there might be a breach of several inches right across from lip to lip.

Mr. S. H. SLOCOCK observed that in that case there was no tension of the skin as there would be on the shoulder.

The PRESIDENT suggested that in Mr. Perryman's case also, the wound being in the vertical direction, there would be little or no tension. Had it been the other way there would have been considerable tension and a big scar left. With incisions for poll evil and fistulous withers if they were made crosswise one got a big cicatrix; if they were made longitudinally there was very little scar.

ELECTION OF FELLOWS.

Messrs. H. H. WORROW, M.R.C.V.S., 156 High Street, Shadwell, E.; and J. R. HAYHURST, M.R.C.V.S., Metropolitan Cattle Market, Islington, N., were unanimously elected Fellows of the Society.

TRAUMATIC MALADIES OF THE FOOT OF THE HORSE.

By W. R. DAVIS, M.R.C.V.S.

Some, it is said, have greatness thrust upon them. Whatever importance attaches to the position in which I now find myself has neither been desired nor sought by me. I am, in fact, here by order of your President, who rang me up on the 'phone, wished me a Happy Xmas, and did his best to prevent the fulfilment of his wish by saying that the member who was to have read a paper to-night was unable to do so, and requesting me to take his place. I make these preliminary remarks in order to disarm hostile criticism, and to claim your indulgence for the manifest deficiencies that you will observe in these notes.

Treads of the Coronet are common, and affect mostly the hind feet. In the fore feet they usually result from over-reaching, and frequently, especially in hunters, a bit of skin may be partly cut off. Don't stitch or bandage; snip it off, and apply Friars balsam or tincture of aloes and myrrh, good old-fashioned vulneraries.

In the hind feet a common result of a tread is a slough of a piece of skin. Injury to the extensor tendon is observed too, but I have never seen the joint opened, although one may have a deep cavity after removal of the slough. It is to be remembered that the skin is here very thick. In very cold weather, and especially where salt is used on tram lines to melt snow, every tread seemed to result in necrosis of skin and great lameness.

The nearer the horn the seat of injury is the more severe is the lameness and the more intractable the case, as here suppuration may take place in the laminae and spread, detaching horn, burrowing along the coronet, and giving great trouble. A pad of cotton wool soaked with solution of perchloride of mercury 1:1000 and kept on with a bandage is, I think, good treatment.

A word about the bandage. Not a filthy bit of old Newmarket bandage, but a piece of new calico; one can buy 12 yards for 3s., and it pays to have it.

Wounds about the Coronet are not uncommon. I will describe two that I have treated recently. A four-year-old Shire horse at grass got fast in barbed wire. A neighbour freed the animal by cutting the wire, but could not remove the embedded piece. On my arrival I found a piece of wire lying deep in the foot and extending from the cleft of the frog to the anterior part of the coronet.

I managed to get it out with a pair of pincers, and having syringed out the wound with chinosol, and put on wool and bandage to stop bleeding, the horse was taken home on a float.

The patient did no good, and was destroyed after about ten days treatment. A post-mortem showed that the joint was extensively opened, the navicular bone abraded, and its ligaments torn. The wound was treated by syringing with chinosol solution, and insertion of gauze soaked in the solution.

In the second case a horsekeeper in putting up the bed touched a mare with a fork, she kicked out, and the prong entering at the heel went within the lateral cartilage and came out at the coronet. The fork being withdrawn, the mare went down and rolled about as though she had colic. I found her sweating and standing on three legs. With a fine-pointed syringe I washed out the track of the fork with perchloride of mercury solution 1:500, until I found it issuing from the opposite orifice. A wad of wool soaked in perchloride and bandaged on completed the treatment. The patient was better in a week.

A farmer once brought me a horse's hoof with a piece of fractured pedal bone in it, and asked me if I would treat the case. The horse had got his foot fast in the cogs of the surface wheel of a thrashing mill, and in his struggles had torn the hoof off. I advised the owner to go home and shoot the patient. I have often wondered whether I ought not to have attempted treatment.

Fracture of the navicular bone may, of course, occur in the diseased bone without great violence being inflicted, but I have seen a fracture of an apparently healthy navicular take place through a horse starting a heavy load. A wagon laden with two tons of coal pulled up at an inn, the carter went into the house, and when he came out a short time after and started the horse, it went violently lame on a hind leg and was led home. Though it was evident that the lameness was due to serious injury in the foot, nothing could be found. Prof. Macqueen was called in consultation; he made a prolonged search but could not determine the exact nature of the injury. The horse finally died in the slings, and on post-mortem a fractured navicular was found. A few days before death a bulging took place in the hollow of the heel and at the coronet, this, on being incised, discharged much sanguinolent pus, the foot was full of this pus.

Fractures within the hoof are, of course, extremely difficult to diagnose.

The prognosis of injuries to the pastern and coronet due to wheels of vehicles, to blows, kicks, etc., needs to be guarded, as after an apparent recovery an exostosis may develop followed by permanent lameness, requiring neurectomy to relieve it.

Does sprain of the structures within the hoof occur? I am inclined to think so. I have often had cases of lameness which I felt certain were connected with the foot, and which responded to baths and poultices.

Should we include laminitis as an affection of the foot due to traumatism? Cadiot says distinctly that we should. He considers that concussion is the cause, and that feeding, chills, etc., merely favour the development of the malady. I am quite convinced that he is wrong. (Of course, we know that a horse very lame on one foot may get inflammation in the opposite foot, but in this case all the secretory membrane is affected, and not the laminae particularly.)

I remember once being called to a foal whose dam broke out of her box, got on to the road and galloped for nearly four miles, her four days old foal following her all the way. No laminitis developed. The disease is, I think, always due to poisons absorbed from internal organs—from the intestines usually; in parturient laminitis from the uterus.

I remember reading a statement made by that keen observer, Prof. Pritchard, to the effect that flour given to the horse frequently induced laminitis. A truer remark was never made. Ground wheat, bran containing much flour, pea and bean meal, maize (to horses unaccustomed to it) all these will give rise to laminitis. Meal and water given to hunters will do it.

Stiff-sickness—really laminitis of cattle, frequently observed in South Africa, has been proved by feeding experiments to be caused by the animals eating a plant, *Crotalaria Burkiana*. Whatever the cause is, the treatment comprises three principal indications:—1. An oleaginous purge: 2. Casting the patient: 3. Hot poultices on the feet. Where the case is a severe one, I almost think that casting is the most necessary indication to fulfil, yet I have searched all the veterinary literature at my disposal and have not found it insisted on; and indeed only mentioned casually by two writers.

A hint here as to how to put a horse down in a stall (every farm has not the roomy, airy loose box often prescribed in text books and essays). Make a good long

bed. Put a rope on the near fore pastern, pass it under the belly and over the back to the near side again, and into the stall on the left. Put another rope on the near hind pastern, pass its end in front of the off hind leg and into the stall on the right. Loose the horse and pull the head well round to the off side; pull both ropes and down he slithers, and so long as the rope on the near foreleg is kept taut it is impossible for the horse to get up if he wants to. If he has laminitis he is glad to lie for a few hours.

A nail bag serves well to put the poultice in, but a piece of stout sacking does well enough: they are best fastened on with a hamestrap. The poultice ought to be soaked with hot water several times a day.

After the horse has lain six hours it may be allowed to get up and have water and hay given to it: in four hours it should be cast again. This casting should continue for three days if the animal refuses to go down itself. It should then receive a little exercise without shoes and have a pair of plain, thin heeled shoes put on to exercise in. I suppose that acute laminitis is still sometimes treated by the application of bar shoes and forced exercise. I tried the plan once, and I can only say that I formed the opinion which I still hold—that it is a stupid and brutal method.

Parturient laminitis differs little from the disease when caused by feeding. It often follows retention of pieces of foetal membranes, and in my opinion is frequently associated with washing out the uterus after removal of retained membranes. I think it is best to put in an antiseptic pessary, or inject a few ounces of carbolic oil when one has removed the membranes from a mare. Parturient laminitis is not uncommon in cows.

Gathered nail. One of the commonest traumatic affections of the horse's foot results from the animal picking up nails, screws, bolts, etc. These objects usually glide off the bars and sole, and pierce the softer horn at the junction of sole and frog. The gravity of the wound inflicted depends, apart from depth penetrated, on its point of entry. If this is situated in the posterior or anterior third, little danger is to be feared usually. In the middle third, however, a deep wound may be attended with serious consequences and may, indeed, result in the destruction of the animal, for here the offending body, after traversing the velvety tissue and plantar cushion, as it would do in other positions in the frog, may pierce the plantar aponeurosis, open the navicular bursa, and even wound the navicular bone. A case is recorded where the os corona was fractured by a nail that had penetrated the frog.

Let me utter a word of warning. When searching the foot for causes of lameness, never forget to have the frog cut down. I have known a very good blacksmith miss a buried nail in the frog.

The most essential thing to do here is to find the track of the nail and wash it out with a reliable antiseptic. Frog horn is difficult to search, the deeper layers cede before the farrier's knife, and the horse resents its pressure. I use a very sharp sage knife to thin the deeper layers, and sometimes make a cruciform incision with a Syme's abscess knife over the black spot that shows where the nail has been. Whatever difficulties there are, one should not rest until the track is explored and washed out if one wants to be safe.

I have here what I may call a needle probe. It is an ordinary large hypodermic needle with the point cut off and a blob of solder put on. It is usually not difficult to introduce this into the track, and then a reliable strong antiseptic can be injected. The needle-probe fits hypodermic syringes, and may be obtained from Messrs. C. H. Huish & Co. You don't want half a pint, a few drams suffice, then push into the track a few strands of gauze wet with the antiseptic, put a pad of cotton wool wet with the antiseptic on top, and a

piece of sack overall. If there is great lameness, a hot poultice may be applied instead of the wool for the first day or two. A shoe may be tacked on in these cases and then the wool dressing is easily kept in place. Wounds from nails, etc., in the posterior third of the frog involve damage to the velvety tissue and to the plantar cushion, and where suppuration takes place there may be swelling and discharge in the hollow of the heel. If the antiseptic can be syringed right through, such cases do not usually cause much trouble. Towards the point of the frog the foreign body may injure the pedal bone, and if there is suppuration a slough of the superficial part of the bone may occur, and it may be necessary to lay bare the parts, remove the piece of bone, and curette the surface; usually, however, the application of tincture of iodine suffices.

In the middle zone of the frog the foreign body is much more liable to do serious damage, yet if one intervenes early enough, and is able to prevent infection by syringing out the track and by the application of antiseptic dressings, a cure may be looked for, even if the navicular bursa is penetrated and synovia is escaping from the wound. I have seen such a case myself more than once.

When the wound has become infected, as usually happens after continual poulticing, and suppuration has taken place, the horn for some distance will be under-run and should be in part removed, the nail track will now be patent, and ought to be flushed out and plugged with gauze soaked in antiseptic, and a pad of wool put on. I think that antiseptic foot baths are useful here. If the plantar aponeurosis is involved, tincture of iodine on gauze may be introduced; this may also be tried in suppuration of the navicular bursa. The disastrous effects of continued poulticing are seen when the pus burrows along the tunic of the plantar cushion and bursts at the heel and along the tendons, and ulcerates through the skin at the cannon.

Where there is continued suppuration and great lameness the classical operation is to remove horny sole, frog, and bars, then divide transversely the plantar cushion at its middle, remove the anterior part, divide transversely the plantar aponeurosis and remove its anterior also, curette the semilunar crest, and the inferior surface of the navicular bone, put on iodoform and dry wool. The operation may succeed in the case of heavy horses used at a walk. I have never performed the operation except on the dead animal. I do not think it is often done in this country.

Someone has imagined a drill to open the nail track. I think that I have seen horses to drill whose hind frogs, when they have gathered a nail, would present difficulties.

Injuries Received in Shoeing. That is called a bind, in which the soft horn is penetrated and the nail presses on the laminae, giving rise to temporary lameness. A few poultices usually suffice to put this right.

In the case of a drawn nail, the nail wounds the laminae, but the smith recognises the wrong direction and withdraws the offending body, leaves the nail hole empty, and in the majority of cases there are no ill effects. Where complications do occur, their course is similar to that followed in the case of *pricks*, where the nail remains in position. However, the last case of tetanus I saw was due to a drawn nail, and had been treated by the farmer with poultices until the disappearance of the lameness.

In pricks in shoeing suppuration usually takes place, and the horse goes lame in a few days, or perhaps not for a week or more. It is a curious fact that a horse may go quite suddenly violently lame, and on examining the foot a good deal of suppuration may be found with considerable separation of horn, and it is apt to be asserted—in cruelty prosecutions for instance—that such an animal must have been long lame.

For the most part pricks are found affecting the quarters where the wall is thin. The pus usually burrows towards the heel, and may go up to the coronet there. Often, too, it finds its way along the velvety tissue of the sole, separating the horn for a considerable distance.

The diagnosis of pricks is quite easy at times—I have seen discharge issuing at the clinch, at other times it may be hesitating. After the pus is evacuated, syringe with an antiseptic, apply wool dressings after having put a few strands of antiseptic gauze in the hole.

Should the foot be poulticed after the evacuation of the pus in an ordinary pricked foot? Although I occasionally use a poultice for the first day in such a case if the lameness is great, my own opinion is that they are unnecessary, and that their continued use should be condemned, in fact wherever the secretory membrane of the foot is exposed, nothing should be applied but a surgical dressing.

If suppuration is considerable, with detachment of horn, great swelling of the coronet, the parts being bathed in pus, I fix the wad of wool on the solar surface by tying stout cord round the hoof, putting a nick with a rasp on the inside and outside lower aspect of the wall to prevent the cord slipping, leave the coronet bare and soak it three times a day with antiseptics, leave the bed down and keep it clean.

The general statement is sometimes made that whenever horn is separated by pus, such horn ought to be removed. Perhaps that would be a useful point to discuss in relation to what has just been stated with regard to the treatment of pricks.

Wounds from the clip of a pulled off shoe may pierce to the pedal bone, and if infection takes place, which mostly occurs if the injury is only treated by poulticing, necrosis of a portion of the bone and of the velvety tissue and of the laminae may result, and pus may make its way to the coronet in front. The treatment is much the same as for pricks. If the pus reaches the coronet, the point of the syringe should be inserted into the lower orifice, and the antiseptic should be injected until it appears at the coronet.

Corns. Traumatism acting on the velvety tissue included between bar and wall, and also on the laminae there, mostly on the inside of a fore foot, give rise to inflammation of the keratogenous membrane, which may result in hæmorrhagic staining of the horn (dry corn), to serous exudation (moist corn), or to suppuration when infection has taken place.

What are the causes of corn? Are they entirely the result of shoeing? As they are never seen in unshod feet, I think it may be accepted that corns do result from the necessity of having horses shod. Shoes left on too long, short shoes as in hunters, cutting away the bars and sole at the posterior part of the foot and thus determining the approach of bar and wall, ablation of the frog at each shoeing, or prevention of its functioning by thick heeled shoes and the consequent wiring in of the heels, are all factors that lead to corn. Compression of the velvety tissue between the retrossal process and the sole is a cause, according to Bouley. Is it possible that the "heel bones" discovered at one of our seats of learning may be agents in the etiology of corns?

Why are corns found on the inside of the foot? I cannot say, any more than I can explain why splints are found on the inside of the cannon, or why canker when it affects the wall is mostly observed on the inside heel, and is always most severe there.

Treatment. A horse lame from a non-suppurating corn should after removal of the shoe have a hot foot bath and stand in a hot poultice—always with bed down for a day or so, and then have a threequarter shoe put on and the wall of the affected heel well rasped down. Do not, however, dig out the seat of corn if non-

suppurating. If suppuration has taken place give a hot foot bath, inject out the track of the pus with antiseptic, and push up a few strands of gauze soaked in strong antiseptic into the track and apply wool soaked in the antiseptic, and a bag over all.

If pus has appeared at the coronet wash out with the antiseptic from below till the solution appears at the coronet, put in gauze, apply wool below, but do not put on sacking, and wash the coronet several times daily with antiseptic.

Prevention of Corns. According to Cadiot, the Omnibus Company of Paris almost eliminated corns from their 15,500 horses by shoeing with what was practically a stout tip, thus developing a big, hard frog and strong wide heels. The perpetuation of corn is, in my opinion, due to the smith searching for corns every time the animal is shod.

This ends my notes. I am quite aware how bald a statement it is of a very wide and interesting subject. To quote Tyndall: "With more time or greater knowledge what has been here said might have been better said, while worthy matters, here omitted, might have received fit expression." However, if I have provided a theme for discussion my function is accomplished: there are many around me who are well fitted to fill the lacunae.

DISCUSSION.

Mr. SAMSON, after expressing his thanks to the author for the time and trouble he had taken to prepare the paper, asked why he preferred oil. In the first place it was slow; secondly, it was nasty to give and use. Personally he would prefer to pop down a good strong physic ball. In such acute cases in the earlier stage he had always found it a good plan to scarify round the coronet with a half-inch or three-quarter-inch wide lancet, get a water can with a long spout and water the coronet with hot water. It would flood the stable and make the place look as if the horse would bleed to death, but he would walk better next morning. In the case of the suppuration of the horn under the poll he did not gather whether Mr. Davis followed it up and cut it away. Personally he invariably followed it to the end. If that were not done the horse might go sound for a time, but suppuration would take place again later on.

Some mention had been made of heel bones. At one meeting he had had a good look at specimens of such, and had come to the conclusion that they were only the good old-fashioned sidebones of different shapes. They were not always of the same shape any more than bunions were in the human subject.

A mare which he had ridden for thirteen years broke her pelvis. She was never touched; she had never even lain down. The late Mr. Hunting and Mr. Wragg had seen her, and Mr. Hunting thought it was a bad case, and suggested that as it would make a very good post-mortem she had better be killed. As he believed he could not replace her for a couple of hundred pounds he did not follow that suggestion, but rested her for six months—and hunted her for years afterwards. He had never done anything to her. Much to his regret he had had to kill horses with broken pelvis on several occasions.

In regard to tips for corns, the mare had very bad ones, but she never had any before being shod. It reminded him of his own shoemaker, whom he regarded not so much as a shoemaker as a corn-maker. He had never known a horse have corns till shod. His own mare was at length kept in a stable in which there were hard blue stones without any straw, in order that her feet might be hardened gradually, and finally he got her to a very short tip and hunted her for seven years in tips and then drove her for a time in tips, free from corns.

Mr. J. WILLETT thought the paper was just the kind of thing that was wanted. It was of course open to a lot of criticism. He did not know whether Mr. Davis agreed with poulticing in treads of the hoof.

Mr. DAVIS said he certainly did.

Mr. J. WILLETT, continuing, said that the lameness which followed a tread might not show itself for a week. There might be a bruising of the coronet which did not go to suppuration. The horse might gradually get sound and resolution follow after resting without any treatment. With regard to laminitis, he had been interested in the fact that Mr. Davis cast the patient. He had never tried that himself, but had always put them in slings, though if they lay down of their own accord he let them, provided they did not get bed sores. If a horse with bad laminitis was allowed to lie he had a tendency to get bed sores very quickly.

Mr. DAVIS pointed out that he had mentioned the horse only lay a few hours.

Mr. WILLETT said the difficulty in that case was to get the animal up. After a horse had been worked so much as to get out of condition there was frequently a footsoreness which bordered on laminitis. He could not put it down to anything but an inflammation of the foot, which he considered was due to concussion. He would ask the author whether he favoured hot or cold poultices in the treatment of laminitis?

Mr. DAVIS said he had stated that he preferred hot poultices.

Mr. WILLETT, continuing, thought that the tendency in cases of gathered nail to leave the shoe off and poultice the foot in a bag was bad treatment, and added considerably to the pain suffered by the animal. If the foot were well cut out it was much the better plan to put the shoe on again afterwards. No doubt it had been Mr. Davis's experience, as well as his own, to find in regard to prick that sometimes the lameness had not appeared for quite a fortnight. He had found the better mode of examination of a horse for prick was to tap the clinches round with a hammer. If one tapped the horn the animal would draw his foot up sharply, but if one got a man to hold the other leg up and tap the clinches round, the horse would give at the knee as soon as the blow was given. He had found that of great assistance in locating the damage, and saved a great deal of time.

He was not quite in agreement with Mr. Samson and Mr. Davis that corns were always caused by shoeing, as he had seen at least two unshod colts with corns. Also, a corn would very often start with a bruised heel caused by a picked-up stone. But no doubt the usual way in which corns were formed was by defective shoeing. Mr. Davis had remarked that he considered corns were caused by the continual searching for them, but the corn which might be called a chronic bruising of the heel, required easing down each time. There was often a hard horn growing right over, and until one cut right down one did not come to it. Also, it was his experience that it was very often necessary to cut down the sole and the bar and the wall away in order to get the horse sound. There was very much pain caused by the corn growing down between the sole and the outside wall, and one could not get down to the bottom to give relief without cutting down lower in the wall and the sole. If one found a corn running down the wall, the best thing was to have the horn rasped right away, even to the coronet, until one got to the white horn underneath, and then gradually pare down right round the corn and leave it bulging up, and then at the last pare down the top of the corn. Of course it took about three months for the horn to grow down to its normal state, but his experience was that there would be very little trouble with corns on that foot afterwards. Tips, in the lighter horse, he thought were of great benefit when corns were present, but he did not see how they were

to be used with heavier animals whose heels were weak, in fact no definite rule could be laid down.

Capt. REES-MOGG thought that foot trouble caused about 80 per cent. of cases of lameness. He had seen bleeding from the jugular vein tried in one case of acute laminitis and great success to follow. Whether the bleeding had anything to do with the success or not he did not know, but it seemed reasonable to suppose that it had. In a case where there was pus in the foot, he had found that antiseptics syringed into the cavity very often did not go so far as one wanted them to go, and the only way to get the pus away was, after making a sufficiently large opening at the bottom, to soak the foot in a bucket of hot water to which some antiseptic had been added, lift up the sound leg, and then there was some chance of the pressure on the lame foot forcing the pus out. He asked whether a three-quarter bar shoe was not preferable to a three-quarter shoe in a case of corns.

Mr. J. W. MCINTOSH said those in practice in the East of London had a good deal to do with injuries of the nature described by the author; for instance, treads of the coronet were very common, more frequently seen in the hind limbs, but now and again in the fore limbs. Many of these injuries result in the destruction of a considerable amount of tissue, and serious and even fatal results sometimes follow. He had still faith in poultices—provided it was not over done—and he nearly always applied them in such cases; they had a soothing effect, hastened the detachment of dead tissue and cleansed the wound.

With regard to the case of fracture of the navicular, which Mr. Davis had mentioned, he was inclined to think that that had taken place some time previously, but displacement had not occurred until the extra effort of starting the load was required.

Laminitis, he thought, was not very common in London practice—at least that was his experience. Out of a stud of nine hundred horses he had no more than two or three cases in six years. He could not account for the small percentage. It was certainly not from want of hard work. His method of treatment was somewhat different from that of Mr. Davis. He believed in cold poultices—the colder the better—and he was opposed to the giving of a purgative as he experienced bad results from its use—the risk of translating the inflammatory process from the structures of the feet to the bowels was a very undesirable one. He considered a purgative unnecessary, a laxative diet was all that was needed, and if with this, the weight of the body be taken off the limbs, either by slinging or casting, the best results may be hoped for. After the acute stage is over, put on good broad webbed shoes, blister round the coronets and run the animal rough for a period.

With reference to "Canker" he was not perhaps as energetic as some veterinary surgeons, and unless the animal was a very valuable one, he preferred to pass it on as quickly as possible.

Gathered nails was a great source of worry and loss to London horse owners. Many of them producing permanent and even fatal results. Get them well cut out and cleansed either by tubing, poulticing or the injection of antiseptics, or a combination of all; unfortunately, however, there are cases which seem to defy the resources of the pharmacopœia and end fatally.

Pricks, on the other hand, were not quite so serious, although sometimes troublesome, and invariably—if discovered in time—ended in recovery under the usual methods of treatment.

As to corns, he was not much troubled with this complaint, but when he did get them, he believed in having them well pared out and either tubed, poulticed or dressed antiseptically. Careful shoeing was essential to the well being of the horse, and the less the foot is

mutilated by the blacksmith the better. A good deal of harm resulted from cutting away the bars, thus weakening the weight bearing part of the foot and exposing it to such injuries as corns and other maladies.

Mr. W. PERRYMAN thought the expression "tread at the coronet" was very misleading. Very few of the wounds at the coronet were truly caused by a big tread. The majority were really scratches with bacterial infection, and the size of necrosed tissue which sloughed out had nothing to do with the force of the original injury. He would ask Mr. Davis whether he thought it was due to the force of the injury as the word "tread" implied, or to bacterial infection, which was very rapid in some cases. In laminitis, he always thought the proper course of treatment was to lower the wall. The inflamed area was the laminae of the foot. The wall of the foot was always more prominent than the sole, but by lowering the crust or wall the weight of the body was distributed over the whole of the plantar surface. With respect to the fracture of the navicular, he was very doubtful whether it occurred in the way mentioned by Mr. Davis. He thought while the driver was having his drink the wheel of another vehicle had probably gone over the foot, and left no outward injury. In connection with the diagnosis of pricks, he always carried a little hammer with him and found it most useful in examining the horse's foot. It was far better than a heavy hammer. When examining a foot with a hammer he thought it best to hold the limb himself and so be able to appreciate if the animal flinched. With a small hammer the foot could be more carefully tested and the offending nail more easily located.

Mr. H. D. JONES believed that laminitis was sometimes the result of fatigue. When an animal came in with fever in the feet and a high temperature Mr. Davis recommended purging at once, he thought a sedative is often indicated. He thought linseed meal was preferable to bran for poulticing, the latter often going sour and giving off an objectionable smell. As to injuries of the coronet, he endorsed what Mr. Perryman had said, that they were sometimes the result of scratches and not treads. They were often found on the outside of the coronet where real treads could not occur. In cases of suppuration all round the coronet, he had found the best treatment was to thin the horn. His experience of puncture of the navicular bursa was that the results were very unsatisfactory. If the animal were cured there was generally permanent lameness.

Mr. WOOD agreed with Mr. Davis in thinking that the best treatment in the case of laminitis was to have the horse cast as soon as possible, in order to get the weight off the feet. It was easily done by fixing up the near fore leg and pulling the horse's head round to the off-side, but a little room was required for that. In the case of a horse standing in a stall, one should fix a thin rope on to the halter, pull the head round to the off-shoulder, pass the rope underneath the girth over the back and loop it underneath the rope again, take a similar turn round the flank, and then stand behind him and pull.

Prof. REYNOLDS agreed with Mr. Davis that fractures of the navicular bone might occur from sudden strain or concussion. In support of this view he mentioned a case coming within his own experience. A cart horse employed in drawing hay from a field had to take at a rush a short steep incline, about ten to fifteen yards long, from the field on to the hard road. On getting on to the road he was pulled up to catch his wind, and it was then noticed he was holding up one hind foot, apparently suffering some considerable pain, but on making him move he showed no great lameness, and was able to draw the load home on the flat road, a distance of about two miles. The next morning he was very lame, and continued so. He was treated by his

owner with poultices, fomentations, and oils. He did not see the horse for six weeks. There was then great swelling and suppuration. The toe was turned up off the ground, the limb resting on the hollow of the heel. From the history of the case, and from the symptoms shown, he thought that possibly it was fracture of the navicular, and it proved to be so. He felt convinced the fracture was caused by the severe tension on the foot when the horse was drawing the load out of the field. He joined Mr. Sampson in asking Mr. Davis why he preferred an oleaginous purgative in laminitis. It was somewhat slow in action. Mr. McIntosh had said he did not think it advisable to give aloes, as it sometimes set up too irritant effects on the intestine. He (Prof. Reynolds) suggested the use of arecoline or eserine, these being quicker than oil and safer than aloes. He thought it a good plan, after carrying out ordinary treatment for two or three days, to get the shoes on the horse and give him exercise; the great thing was to encourage circulation in the foot.

Mr. BYERLEY thoroughly agreed with the author as to the use of poultices, but he had not said that they should always be medicated. To apply an unmedicated poultice was a most reprehensible practice, because conditions were set up which favoured the development of septic organisms. Medicated poultices afforded very great relief and were open to no objection whatever. As to whether they should be cold or hot depended entirely upon the condition which was being treated. In laminitis the cold poultice was preferable. Mr. Davis said that in his practice he never applied any protection to openings at the top of the foot. While it was bad practice to apply tight bandages or applications to any part of the foot because they prevented proper drainage, still it was absolutely necessary that all parts should be protected; and it was wrong to allow any open wound to be constantly running the risk of being contaminated by stable refuse.

The injection of antiseptics into wounds of the foot was always advisable, but he had not had good results where he had forced gauze or other packings into the cavities, because they prevented free drainage from the wounds and frequently added to the pain of the animal. He entirely endorsed what Mr. Davis said with regard to the digging out process for corns which was frequently carried on by farriers. They were not entirely to blame, because they generally acted under superior instructions. Digging out the corns not only robbed the foot of support but converted a simple corn into what was constantly giving rise afterwards to suppurative condition. Protection of the sensitive parts was removed and septic organisms gained entrance to the foot.

The PRESIDENT asked the members whether they would prefer that the discussion should stand adjourned owing to the lateness of the hour.

On the motion of Mr. N. Almond, seconded by Mr. Eaglesham, it was agreed that the discussion should stand adjourned to the next meeting.

It was moved by the Hon. Sec., seconded by Prof. Reynolds, and agreed to, that a vote of thanks be given to Mr. Perryman for his interesting specimen.

HUGH A. MACCORMACK Hon. Sec.

R. D. S. Spring Show.

The Royal Dublin Society spring show will be held on Tuesday, April 14th and three following days.

Entries close at single fees on February 23rd, and at double fees on February 26th. The last date for polo ponies to be entered is March 13th, and entries for the jumping competitions close on April 2nd. Applications for entry forms should be made to the Agricultural Superintendent, Leinster House, Dublin.

Royal College of Veterinary Surgeons.

A special meeting of Council was held at the College 10 Red Lion Square, W.C., on Tuesday, January 20th. There were present: Mr. Hobday, Sir John M'Fadyean, Messrs. Mulvey, Price, Maj.-General Pringle, Prof. Shave, Mr. Slocock, Sir S. Stockman, and Mr. Fred Bullock, Secretary.

Chairman. In the absence of the President, Mr. T. S. Price was appointed to the chair.

Absentees. Apologies for absence were received from the President, Messrs. Barrett, Dunstan, Garnett, Lloyd, Dr. J. McL. McCall, Messrs. McKinna, Mason, Prof. Mettam, Messrs. Packman and Shipley.

Minutes. The minutes of the previous special meeting were read and confirmed.

Bye-laws. On the motion of Sir John M'Fadyean, it was resolved that the following additions to the bye-laws, passed at a special meeting of Council held on Jan. 9th, 1914, be confirmed:—

62 (a) *Exemption.* (i) Students who have obtained a Degree in Arts, Science, or Medicine of any University in the United Kingdom, or the Diploma of Licentiate of the Royal Colleges of Surgeons and of the Royal Colleges of Physicians, and who at the respective examinations for such Degree or Diploma, have passed in Chemistry, and also in Biology, Zoology, or Botany, are exempted from attendance at the first year's Course of Lectures and from the examina-

tion at the end of that year, provided that each student so exempted shall be examined in the whole subject of Anatomy in the Class B Examination.

(ii) Students claiming exemption under this Bye-law must submit to the Secretary of the Royal College of Veterinary Surgeons, not less than three months before they intend to present themselves for the B Examination, satisfactory evidence that they are entitled to the exemption.

(iii) Candidates possessing similar qualifications granted by Colonial or Foreign licensing bodies, shall submit their Certificates to the Examination Committee, who shall report to the Council on the eligibility of the applicant for exemption or otherwise.

This concluded the business.

"Not Confirmed."

A cow died on the home farm at Stoke Edith, the residence of Mr. Paul Foley, and Mr. Foley's veterinary surgeon, on an analysis of the blood, certified it to be a case of anthrax. The matter was reported to the police authorities, whose veterinary surgeon gave a similar certificate. The cow was then burned, and all the formalities gone through. About a week afterwards a letter was received from the Board of Agriculture stating that the case was not anthrax, but giving no information as to the possible cause of death. The owner has sent in a bill to the County Council to meet the expenditure incurred. No blame is attached to the police. The Board of Agriculture have been asked to explain the delay.—*The Hereford Times.*

DISEASES OF ANIMALS ACTS 1894 to 1911, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Out-breaks.	Animals.	Out-breaks.	Animals.	Out-breaks.	Animals.	Out-breaks.	Animals.		Out-breaks.	Slaughtered.*
	(a)		(a)		(b)		(b)			(a)	
GR. BRITAIN.											
Week ended Jan. 17	20	22			1	2	87	160	15	45	273
Corresponding week in											
1913 ...	11	13			3	12	88	198	12	34	247
1912 ...	24	25			3	4	127	344	7	64	816
1911 ...	25	27			4	23			27	43	475
Total for 3 weeks, 1914	62	65			6	22	231	458	33	136	1160
Corresponding period in											
1913 ...	38	48			11	51	256	610	38	107	1620
1912 ...	66	75			11	28	509	1438	50	167	1760
1911 ...	57	60			13	50			95	109	1238

(a) Confirmed. (b) Reported by Local Authorities.
Board of Agriculture and Fisheries, Jan. 20, 1914

† Counties affected, animals attacked: Durham 2.

IRELAND.		Outbreaks		13		3		4	
Week ended Jan. 17	...	...	...	...	...	...	...	...	...
Corresponding Week in									
1913 ...	...	...	...	...	...	...	...	...	...
1912 ...	...	...	...	...	...	...	...	...	...
1911 ...	1	1	...	...	...	...	...	...	...
Total for 3 weeks, 1914	...	...	...	...	...	...	...	...	...
Corresponding period in									
1913 ...	...	...	...	...	...	...	...	...	...
1912 ...	1	1	...	...	...	...	...	...	...
1911 ...	1	1	...	...	...	...	...	...	...

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Jan. 19, 1914
NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

BONE FORMATION FOLLOWING TRAUMATISM.

The following abstract is from a paper on Traumatic Intramuscular Ossification (usually known as myositis ossificans traumatica), by John Morley, Ch.M., F.R.C.S., in *The British Medical Journal* of December 6th. It has interest inasmuch as it carries the work of Macewen on bone formation a step further, and from the fact that plates of bone, for which no sufficient explanation has been given, have been found in the gluteal muscles and in the muscles on the external aspect of the thigh in the horse.

The condition to be described follows the infliction of a single severe contusion, and must be distinguished clearly from two other types of intramuscular ossification—namely, (1) myositis ossificans progressiva, which starts early in life, usually in the muscles of the back, and ultimately causes death from respiratory failure; and (2) ossification into tendons, the result of slight, repeated mechanical irritation, such as "rider's bone."

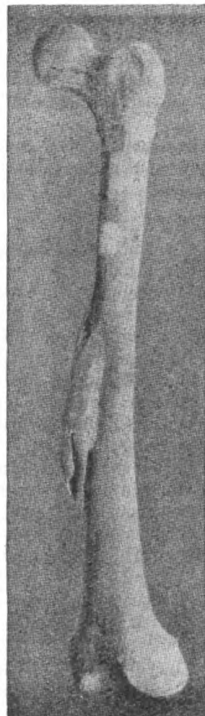
After a severe, blunt, subcutaneous injury to a limb, usually the thigh or upper arm, a mass of bone develops in the contused muscles. Various theories have been entertained as to the origin and nature of this bony growth, a full discussion of which is given by Lapointe in a recent paper.

Briefly, the theories fall into three main groups, namely:

1. Tumour formation.
2. Metaplastic inflammation of muscular connective tissue.
3. Mechanical.

The truth of the mechanical view of its causation is suggested by certain facts concerning the incidence of the condition. Of a series of 233 cases collected from the records of the German Army in ten years by Schultz, all but three were situated in the quadriceps or brachialis anticus. The patients are usually young adult or adolescent males. The type of injury is always a severe subcutaneous contusion, and it is remarkable, on looking through the literature, how many cases are due to a kick on the front of the thigh or a blow with a fist on the front of the upper arm. Now in both these situations we have a broad, smooth, convex area of bone, covered by periosteum that is loosely attached and readily stripped off owing to the absence of tendinous insertions. This point has impressed many observers, and has given rise to the view that the lacerated muscle fibres may retract, carrying torn fragments of periosteum away from the bone, and that these fragments act as grafts producing bone. Others hold that as a result of trauma the cells of the deep layer of the periosteum are stimulated to proliferate. These views must be abandoned, however, since they are based on an erroneous conception of the function of the periosteum. The work of Macewen has shown conclusively that the periosteum does not act as a bone producer, but as a limiting membrane to the growth of osteoblasts. Working on dogs, he showed that the so-called osteogenetic layer of the periosteum is really a subperiosteal layer of areolar tissue which normally contains osteoblasts in the growing bone only; that in healthy adult bone this subperiosteal areolar space contains few osteoblasts or none, so that transplanted periosteum does not produce bone; and that subperiosteal deposits of bone produced by irritation are due to the pouring out of osteoblasts into the subperiosteal space from the deeper parts of the bone via the Haversian canals.

In the light of these facts, and of the investigations I now record, I consider the pathology of traumatic intramuscular ossification to be as follows: A severe blunt injury at once subcutaneously strips off and destroys the periosteum, and crushes the muscles in contact with the



essentially similar to the condition that occurs in man may be produced by curetting off the periosteum from the front of a rabbit's femur, and crushing the adjacent muscles. Ossification occurs by the migration of osteoblasts into the crushed muscles and blood clots lying in contact with the denuded bone. That devitalization of the muscles by crushing is an essential factor is shown by the fact that when the periosteum is removed, and the muscles are not crushed, little, if any, exuberant growth of bone occurs. This fact agrees with the observations of Macewen.

HISTOLOGY.

For microscopical examination, a bar of bone, some 3 cm. long, removed at the first operation, was chosen. It was cylindrical in shape, with a diameter of 0.5 cm. at its widest part, and was almost completely surrounded by fibres of the muscles, in which it was growing parallel to their long axis. This piece of bone was decalcified, and transverse and longitudinal sections cut and stained with hæmatoxylin and eosin.

Transverse sections show a definite formation of spongy bone arranged in irregular trabeculae, with large vascular medullary spaces between, in which a few multi-nucleated cells and many oval cells of embryonic connective tissue type are seen. The osseous matrix takes on a definite pink with the eosin. In the centre of the bone is an area of hyaline cartilage, avascular, and merging into bone at its periphery. The cartilage is distinguished from the osseous tissue by the non-staining character of its hyaline matrix, by large cell spaces, and round nuclei, faintly stained with blue. It appears to be undergoing rapid cell division. The periphery of the bony mass is nowhere in immediate contact with muscle fibres, but is surrounded by and merges into a layer of primitive fibrous tissue containing many oval nuclei. It is evident that these embryonic connective tissue cells are actively infiltrating the

bone. Bleeding occurs from the surface of the denuded bone, and, with the blood, osteoblasts in a free and possibly amoeboid condition escape into the pulped muscle tissue and blood, and there produce a growth of bone. As Macewen has shown, healthy muscles left in contact with denuded bone form protective fibrous adhesions from their interstitial connective tissue, and so take on the limiting function of the periosteum. My own investigations show that severely contused muscle tissue mixed with blood, so far from restraining the migration and growth of osteoblasts, provides a very favourable pabulum for them.

EXPERIMENTAL CONFIRMATION

By the kindness of Prof. Boycott I have been able to perform experiments on rabbits in the pathological laboratories of Manchester University. These investigations are not yet complete, and will form the subject of a subsequent communication. It may be stated as a preliminary report, however, that intramuscular ossification

The photograph illustrates:—Old-standing traumatic "myositis ossificans," showing incomplete reabsorption and transformation into dense bone. [Museum specimen.]

muscle and destroying its fibres. Here and there isolated and degenerate muscle fibres are seen surrounded by this tissue, and a little further from the bone it is seen to be invading the muscle substance by infiltration between its fibres. There is a general increase of the intramuscular fibrous tissue.

Longitudinal sections show particularly well this process of infiltration and destruction of muscle tissue by these indifferent connective tissue cells.

Interpretation.

The first point of interest is the nature and origin of the cells that are infiltrating the muscle fibres and paving the way for the growth of true bone. Do they originate in the intramuscular connective tissue or in bone? A minute examination of a number of these sections under a high power lens convinces me that they are simply osteoblasts in an actively dividing preosseous stage. The outer margin of the definite bony tissue passes by insensible degrees into this embryonic fibrous tissue, which here and there takes on faintly the pink stain seen in the fully developed osseous matrix. Similarly cells can everywhere be seen in every stage of transition between the mature osteoblast and these indifferent connective tissue cells. This conclusion is, of course, supported by the experimental evidence given above.

The section shows further in a striking manner that the cartilage cells are also identical with the osteoblasts, though in a different matrix, for between these again all stages of transition are seen. The importance of this conception of the essential unity of the osteoblast and chondroblast is obvious in connection with our ideas on the growth of bone. There is now a very general feeling of scepticism towards the classical description of ossification in cartilage. Macewen holds that the osteoblast and chondroblast are the same cell in different guise. Wingate Todd, as the result of extensive histological investigations, concludes that "osteoblasts are fibroblasts or connective tissue cells which have undergone certain characteristic modifications, and may or may not have passed through a chondroblast stage." With these authorities I am in entire agreement. The explanation of the presence of cartilage here is not so simple. The cartilage plainly originated from bone, and would probably have been transformed in course of time into bony tissue. I am inclined to think that the presence of cartilage in the centre of the bar of bone is to be explained by its lower vascularity, since we know that an essential difference between bone and cartilage is that the former is vascular, the latter avascular.

The main purpose of this paper is to advocate excision with grafting of a stout layer of deep fascia or aponeurosis on to the denuded bone. As stated above, the result in my own case was a complete success, and has saved the patient at the least many months of incapacity for work.

The Mines Act, 1911—A Prosecution.

A prosecution under the Coal Mines Regulation Act took place at Neath County Police Court, on Friday, Jan. 16th, when the defendants were David William Thomas, colliery manager, Seven Sisters; Daniel Lewis, James Bafton, D. T. Davies, and John Parry, horse-keepers, Seven Sisters. There were three summonses against the manager, and two against each of the other men. Mr. Edward Powell prosecuted for the Home Office, and Mr. Trevor Hunter (instructed by Mr. A. J. Jeffries) defended.

The prosecutions were taken under the third schedule of the New Mines Act, 1911. In the case against Parry, summoned for working five horses in an unfit state, Mr. T. Lloyd Evans, inspector of pit horses under the Home Office, said that on September 15 he visited the colliery,

and there found five horses, for which Parry was responsible, working when unfit. On "Margam" there were five sores, on "Boxer" two, on "Fly" four, and on "Steamer" and "Charlie" one each.

Cross-examined: The horses, apart from the sores, which must have been painful, were in fairly good condition.

There was a second summons against Parry for not keeping a proper record in the horse-keeper's book. This defendant pleaded guilty to.

Called for the defence, Veterinary Surgeon Phillips said that he visited the colliery and examined the horses on the 12th and 16th of last September. It was a common thing for colliery horses to receive minor injuries, he said, and it was better for animals to work than to be idle when the sores were protected.

Cross-examined: The report of the Home Office Inspector was correct, but exaggerated. Witness made his examinations at the colliery stables between the shifts. The statement of the inspector that the sores were old was quite wrong. They were new.

Mr. Hunter, addressing the justices, said it was admitted that there were sores on the horses when the inspector visited the pit, but the defendant was in no way responsible for them, for the veterinary surgeon had clearly stated that the sores were caused on the actual working day.

The Bench intimated that they had decided to convict, and Mr. Hunter said he could not put the cases any higher in connection with Lewis, Bafton, and Davies, similarly summoned, and pleaded guilty.

The summonses against the manager were in respect of a roof of insufficient height, of not exercising proper supervision over the horse-keepers in keeping their books, and of an insufficient supply of water in the workings.

Mr. Hunter said it spoke well for the management of the mine—in which there was a good deal of "squeezing"—that the inspector could only find three places where the roof was too low to meet with the requirements of the Act in regard to "roughing" or "rubbing" of colliery horses. Referring to the insufficient supply of water in the workings, learned counsel said that there was an ample supply of water in the stables, but the management had overlooked the provisions of the Act in respect of the workings. This had, however, now been remedied.

Mr. Hunter pleaded not guilty to the summons charging defendant with not exercising personal supervision over the horse-keepers.

In this case the manager was ordered to pay costs. In respect of the others he was fined 30s. and costs. The other men were fined 25s. and costs each.—*Western Mail*.

"Scrapie" Seventy Years Ago.

A correspondent of *The Scotsman* writes:—Sir Stewart Stockman, in his address at St. Boswells, said that the earliest information about the disease under the name of "scrapie" which he had been able to acquire dated back to 1853. This week, in conversation with an aged Border shepherd, I was told of an outbreak which goes further back than that. Ten years before the date given by the Chief Veterinary Officer of the Board of Agriculture, a farmer from the Scottish side of the Cheviots attended a sale of sheep on a Northumberland farm, and purchased a lot of Cheviot ewes, which were placed among his own stock and given the run of the regular grazings. In a short while all the imported ewes perished from the disease, but not one of the other sheep on the holding was affected by the malady, and it has never appeared on that particular farm since. This is good evidence, surely, as the old herd put it, that "scrapie" is not "smittle."

Bran as Food for Stock.

In the report of an experiment carried out by the East of Scotland Agricultural College, bran was compared with linseed cake in rations of which the other ingredients in each case were Bombay cotton cake, roots, and oat straw. The two lots of cattle made very nearly the same increase in weight, but the advantage, both in cost per cwt. of live weight and in percentage of dead weight, was slightly with the bran. The two lots of beasts sold at almost identical prices, there being no difference in the quality of the beef that could be attributed to the feeding.

The bran was fed dry, the cattle eating it readily out of their troughs. It is said to be more digestible dry than when moistened or scalded and made into a mash, the reason given being that the animal does not masticate the moist food thoroughly. Dry bran is only very mildly laxative, chiefly when first introduced into the rations.

Preference is often shown for "broad-leaved" bran as compared with finer samples, and for white as against red bran, but there is no evidence in support of these fancies.

An Offer.

An esteemed correspondent in Australia sends us the following, which we reproduce *verbatim et literatim*.

So. St. Joseph, Mo., March 27, 1913.

University of Melbourne, Veterinary College, Melbourne, Australia.

Glasgow Veterinary College, Glasgow, Scotland.

Royal Veterinary College, London, England.

Royal Veterinary College of Ireland, Dublin, Ireland.

Royal Veterinary College, Liverpool, England.

Gentlemen of University of Melbourne, Veterinary School.

I have discovered what causes horses to go blind; that is, something over 90% of all horses that go blind. I think that this will be of some value to you, at any rate, I am going to give you an opportunity to consider it, and I am confident that the place where it belongs is in the hands of practicing veterinarians of the country.

I have found out what the cause is, the symptoms, process and results; also how to prevent it, how to treat a horse that is effected, so as to save his eyes, and it is not a difficult job.

The facts of the case are simple, the process is reasonable and very natural under such conditions that are brought about by such a cause.

If you have the knowledge of the nature of the addiction, then this affliction can be handled in an intelligent, effective manner with more assurance of satisfactory results.

You may have a barrel of remedy and it is of no material benefit, if you are not acquainted with the Hows, Wheres and Whys of this affliction.

While these are facts I am offering, you are very apt to see them as such; you can receive these facts in this state of mind.

(Truth has a way of explaining itself to the minds of some, beyond the power of man to explain) yet the undisputable fact remains that it takes time to demonstrate how well a doctor can perform his work; how well a horse owner can guard against this occurrence recurring, whether he acts in accordance with the fact as they exist to save his horses' eyes, and these are the facts to be taken into consideration.

It will take the life time of a number of horses so affected with this susceptibility on the hands of man or men, that know the Hows, Wheres and Whens and to act accordingly to prove these statements that you and I make to be undisputable facts proven beyond a doubt in this case.

If this proposition interests you and looks to be of value to you, how much will you offer for the copy-right of this information; how much of a royalty on the medical remedy will you offer, under what conditions will you consider this proposition?

It has taken me years to thoroughly demonstrate to my own mind that this discovery is a fact beyond any possible doubt.

It is necessary for horse owners to know the fact as they exist to handle this affliction, it is also of vital importance that the veterinary should be proficient in his diagnosis and his part of the work; this education of the farmer, horseowner, naturally is in your hands, You, the fountain head. This information, if wanted will be printed in pamphlet form, explaining thoroughly, in detail, the whole proposition.

I am writing this letter to all Veterinary Colleges of England Ireland, and Scotland and by you co-operating, you can get this information at an insignificant cost to any of you.

The value of this is beyond an estimate of the horse owning public.

Who is this, that is making this proposition? Will say that I am a dealer in cattle at the Stock Yards in St. Joseph Missouri, and have always dealt in cattle and horses, not only as an occupation and to make a living, but for rest, recreation and pleasure this has been my life time work.

I am 46 and have been a specialist in this one particular line of research. The first horse I ever had claim to, was when I was 9 years old, she went blind under me or near me, when I was hearing caws as a farmer boy. It took her three years to go blind, I watched this process from start to finish.

When I was 20 years I had another fine horse to go blind on my hands. In the meantime I was trading and dealing in horses. This was the beginning of the end.

This one idea, of why a horse should go blind, why it cannot be stopped, why there is not a way to stop it, was forever the uppermost subject in my mind, when it was said that the intellect of man shall prevail.

In August 1892, at Wray, Colorado, I found the key to this "Go-blind" proposition, where you cannot help your self and do all you can. Here is where I declared "War" and started it on this Moon-eyed Periodical Oph., and all other mis-leading names; but go blind just the same.

With this discovery as a key, I picked up a piece here, a part there, until I found in 1897 or possibly later, that it is easy to save the horses' eyes, while I had him under my control.

The fact of the case are, that I never failed. There is no need of failure when you know what it is, where it is, and how it works and have the remedy. Will also say that the practicing Veterinaries and Instructors in Veterinary Colleges, up and down this fair land of ours, are as innocent of the cause and process and as helpless in the act of saving horses' eyesight as a child.

I have plenty of proof of the correctness of this statement in fact too much. The blind horses of this country are visible evidence of the knowledge and how proficient, you Veterinary Men are in the treatment of this affliction. The blind horses are living, walking monuments of your failures.

This discovery has cost me years of study, and more money than most men would care to invest in such a hazardous undertaking. While these being the fact, yet this work has been a pleasure to me.

Should you want reference write the Stock Yards Bank of St. Joseph, Missouri. I am at your service to assist and co-operate all that is possible in this work if so desired.—Yours truly,
L. B. PETER.
Live Stock Exchange Building,
South St. Joseph, Missouri, U.S.A.

Anæmia due to Pediculosis.

Many of our practitioners are familiar with the effects of mange, but probably very few of them will have met with a gross infestation of macroscopic parasites comparable to the following:

Mr W. Holland (*Tidsskrift for Den Norske Lægeforening*, September 15th, 1913), records a case of severe anæmia, the only cause of which seemed to be generalised pediculosis. The patient was a painter, aged 60, who had been admitted to hospital two years earlier for anæmia and extreme debility. Frequent attacks of fainting necessitated injections of camphor and ether. The pediculi swarmed not only all over his body, but were also found crawling over his purse and goloshes, and forming large, creeping clusters. The patient's face was puffy, and the colour of his skin waxy. He suffered somewhat from cough and digestive disturbances. There was bronchitis, but the abdomen and urine were normal. A generalised rash gave a copper-like colour to the skin. After several months' treatment in hospital with potassium iodide and iron the bronchitis and anæmia disappeared, and the patient gained weight. On readmission to hospital two years later the anæmia had returned, and the pediculi were so numerous that the outside of the patient's clothes was grey with them, and the inside presented a layer of vermin several millimetres in thickness. The blood count was characteristic of secondary, not pernicious anæmia. Though the pediculi could be counted by the hundred thousand, there were no macroscopic lesions of the skin, apart from a few scratches. Possibly his age and familiarity with the vermin rendered the patient insensitive to their attacks.—*B.M.J.*

London Hackney Show.

The annual national show of hackneys, harness horses and ponies, is fixed for March 3rd, 4th, 5th, and 6th next at the Agricultural Hall, London. £1,490 will be awarded in prizes, and there are champion cups to the amount of £461. In very many of the 42 classes it is only necessary for the horse to be sired by a registered hackney.

Entries close on January 26th to Mr. Frank F. Euren, Secretary, at the Society's Offices, 12 Hanover Square, London, W., from whom all particulars may be obtained.

Docked Tails and Grazing.

Grazing for horses—with docked tails, 6d. a day; with long tails, 1s. a day.

This notice appears in a meadow near Dieppe. The owner of the meadow, when asked for an explanation of the difference in the charges, replied, "A docked horse is constantly irritated by the flies, and keeps on stopping his grazing to drive them off by swinging his head. A long-tailed horse keeps off the flies with his tail, and so can keep on grazing without interruption."—*Daily Mail*.

X-Ray Cancers and Radiation Therapy.

In a lecture before the Röntgen Society at the Middlesex Hospital on Monday, 5th inst., Dr. Jean Clunet, of Paris, described the upward growth of skin cells from within till cast off as dead scales. In cancers, he pointed out, the young cells did not age normally, but became active on their own account and multiplied. X-rays hastened the normal process, but a violent application produced a dead scale so quickly as to form an ulcer. Milder doses caused thinning and atrophy of the skin. He then explained that under strong rays the cells aged so quickly as to hinder their reproduction; very small

doses stimulated their reproductivity. Thus the small doses to which the radiographer was subject caused inflammation on which cancer sometimes supervened. Moreover, x-ray cancers were peculiarly difficult to heal. In one case, doses large enough to be destructive were given, but as the nerves became affected the treatment had to be given up.—*The Hospital*.

Fees to Inspectors.—Holland County Council.

We have been favoured with a copy of the following, with scale:—

Sessions House, Boston.

January 10th, 1914.

Dears Sir,

TUBERCULOSIS ORDER, 1913.

I am directed to inform you that the Holland County Council, Diseases of Animals Acts (Executive) Committee at their meeting on the 6th inst., adopted the subjoined scale of fees to Veterinary Inspectors, in carrying out the "Tuberculosis Order of 1913," which scale is supplemental to the existing scale of fees to Veterinary Inspectors of this Administrative County.

I am to request that you will at once signify to me your acceptance thereof, as otherwise other arrangements will be resorted to for the purpose of carrying out veterinary inspection, etc., of animals within the Administrative County.—I am, dear sir, yours faithfully,

W. H. GANE,

Clerk of the County Council.

	£	s.	d.
First Inspection	10	6	
Each additional animal	2	6	
With maximum fee to include valuation and report	3	3	0
Milk examination	10	6	
Tuberculin test—First animal	1	1	0
Each additional animal	5	0	
Post-mortem, each animal	10	6	
Mileage, one way for each visit			6

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, Jan. 20.

SPECIAL RESERVE OF OFFICERS.

ARMY VETERINARY CORPS.

Lieut. C. M. Stewart resigns his commission. Dated Jan. 21.

OBITUARY

BRITTLEBANK.—On January 22nd, Ethel Holliday, beloved wife of Joseph William Brittlebank, Park View, Brooklands, Cheshire, aged 38 years.

Personal.

Mr. DAVID MCCALL, M.R.C.V.S., Johannesburg, has purchased two well-bred Clydesdale stallions, which will be shipped to South Africa. One of the horses is Buchlyvie's Pride (16501), is rising four years old, and was sired by the well-known Baron o' Buchlyvie, out of Gloria, a mare by Baron's Pride. The other horse, Burnhead Favourite, was got by The Bruce, and is a horse of superior type.

Principal McCALL, F.R.C.V.S.; Mr. ANDREW ROBB, F.R.C.V.S.; and Mr. WILLIAM LOGAN, M.R.C.V.S., Inverness, are to examine for the Scottish Stallion Show at Glasgow, which is arranged for Feb. 4th.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1334.

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VOL. XXVI.

STATE AID FOR VETERINARY SURGEONS.

On another page we reprint a report of some important utterances by Mr. Runciman upon veterinary education. They are full of hope for our profession. Mr. Runciman fully recognised the need for the financial support of veterinary education by the State, and he foreshadowed the speedy advancement of a scheme for that purpose. Thus far, his words were quite clear and definite—naturally, as the matter is still in the inception, he did not enter into details. So far as it goes, the speech appears to be the most encouraging one to veterinary surgeons that has yet emanated from a Minister of State. The British Government has been a long time in recognising the just claims of the veterinary profession, but it is evident that recognition is coming at last.

THE RESEARCH DEFENCE SOCIETY.

This Society is now commencing the sixth year of its existence, and the results of its work are well summarised by the following extract from a letter which its executive officers have sent to the public Press.

"We are of opinion that our Society has helped to bring about a much better understanding of experiments on animals in this country. There is less of ignorance, prejudice, and ill-will, less readiness to accept without inquiry the charges made against this method of research, less doubt of its great value in physiology and pathology.

The public is beginning to see that experiments on animals are useful in the maintenance of national health and efficiency, in the protection of men on foreign service, in the safeguarding of workers at dangerous trades, and in the immunising of live stock against infectious disease."

All this is true; and veterinary surgeons as medical men owe a debt to the Society. Its work is largely that of a popular educator, spreading abroad the truth regarding animal experimentation as applied to medical science in its widest aspect. In no branch of medicine has animal experimentation proved more valuable than in the veterinary; and no branch would suffer more by its discontinuance. The Society that has done so much to render its position impregnable should be able to count upon veterinary support. Curiously enough, the medical profession as a whole has never supported the Society very warmly, and the veterinary profession has scarcely noticed it. Both professions should join in supporting, for its work is now bearing visible fruit.

ENORMOUS MYXO-SARCOMA OF THE OVARY IN A BITCH.

Hebrant and Antoine, of the Brussels Veterinary School, record this case of a small fox-terrier bitch, about eight years old. She appeared in very good health, but her abdomen was abnormally developed, almost trailing upon the ground. The history was that this swelling had appeared gradually, and it was certain that the animal could not be pregnant.

At first sight the appearance indicated ascites. The abdomen was distended at its most dependent part, and the flanks were hollow; while palpation and succussion gave a very distinct impression of "surging." Further examination, however, did not support this diagnosis. No abnormality could be detected in the organs usually concerned in the causation of ascites. The heart was beating normally, and auscultation of it indicated that its function was very good. The kidneys did not seem to be involved, for a complete analysis of the urine showed nothing abnormal. The liver, although it was impossible to examine it closely on account of the abdominal tension, did not seem to be acting abnormally. Finally the abdomen was repeatedly punctured at different places, first with the needle of a Pravaz syringe and then with a trocar, but not the least amount of liquid could be obtained.

Suspecting an ovarian cyst, the authors decided upon an exploratory laparotomy, and the abdomen was opened along the linea alba, under anaesthesia and aseptic precautions.

No liquid escaped when the abdomen was opened, but a fluctuating organ, slightly bluish in colour, and in its external aspect exactly resembling that of an uterus filled with pus, appeared in the wound. The organ was so voluminous that the abdominal incision had to be twice enlarged to extract it. When extracted, it proved to be not a uterine horn but an ovary the size of a man's head, and of soft consistence. The ovarian pedicle was then ligatured, the organ was removed, and the abdominal cavity was closed. The operation was carried out entirely without hæmorrhage.

The diseased organ weighed $3\frac{1}{2}$ kilogrammes (= about $8\frac{1}{2}$ lbs.) When incised, it appeared as a gelatinous mass formed of meshes of connective tissue containing a mucoid substance, and here and there showing centres of tissue the colour of calves' flesh. A myxoma with sarcomatous centres was diagnosed, and numerous microscopical examinations proved this to be correct. The condensed portions showed the structure of a spindle-celled sarcoma, and elsewhere the tissue was that of a myxoma of very loose texture.

The post-operative progress was perfect, and the last stitches were removed on the eighth day. The bitch did well subsequently, and was well advanced in pregnancy less than four months after the operation—(*Annales de Méd. Vét.*)

PERHYDRIT, A STABLE PREPARATION OF
HYDROGEN PEROXIDE.

Dr. J. Schumacher calls attention (*Deutsche Mediz. Woch.*) to this product. Merck's "perhydrol" is a chemically pure and acid-free preparation of hydrogen peroxide. Perhydrit is a more easily manageable and more stable form of perhydrol. It is a stable combination of hydrogen peroxide with urea, and is prepared from perhydrol. It is supplied in solid form in bottles of 20 and 50 grammes, and also as one-gramme perhydrit tablets in quantities of 10, 25, and 50. As regards the effects of the hydrogen peroxide as a disinfecting agent and in the cleansing of wounds, the properties of the new preparation are not inferior to those of perhydrol.—*Berliner Tier. Woch.*

W. R. C.

A TWIN FŒTUS.



On the evening of January 14th I was called to a three-year-old heifer in parturition. From appearances observed, she had been in labour for hours and she was in a state of exhaustion.

On examination I found that it was a breach presentation of a large calf in a very small pelvic ring. On further exploration I was very surprised to find a number of feet—six or seven—which on examination were found to include both fore and hind limbs.

I drew out the first pair of hind legs, and removed part of the foetus at the loins: and did the same with the other hind limbs, cutting across the

loins. As I had previously secured some fore legs, I tried to turn what was left of the foetus and secure the head—the poll only of which could be reached.

As I saw it was a hopeless case—the heifer being exhausted and the pelvis too small to admit of a moderately sized calf being delivered—I had her slaughtered, and on post-mortem I found the bodies of two calves joined together at the side of the sternum. Their fore legs were round one another's necks in a sort of embrace, with the feet extending backwards. The union between the two bodies seemed to be made up of cartilage and fibrous tissue; but as it was freezing at the time, and I was stripped in a draughty shed, I did not stay to examine very minutely. I enclose a photograph; you will see that the hind quarters are missing.

J. WRIGHT CONCHIE, M.R.C.V.S.
Kidderminster.

VETERINARY MEDICAL ASSOCIATION
OF IRELAND.

[NATIONAL V.M.A.—IRISH BRANCH].

SARCOPTIC MANGE IN THE DOG.*

By Prof. CRAIG, M.A., M.R.C.V.S., Royal Vet. Coll., Dublin

Mr. President and Gentlemen,—When I promised to read at this meeting a paper on "Sarcoptic mange in the dog," I intended to show specimens of the parasites under the microscope. It was suggested that the paper would be more interesting to you, if, in addition to this I gave a lantern demonstration, not only of the mange parasites of the dog, but also of those in the horse and sheep. Accordingly with the generous co-operation of Prof. Mettam and Mr. Haines, to whom I am indebted for much of the work entailed, I had micro-photographs made of specimens of my own preparations, and the lantern slides which I am about to show you are prepared from them. The parasites of which the photographs were taken were grown on some of the animals in this country. I have placed a series of some twenty slides under the microscopes upstairs, showing various mange parasites, for your inspection afterwards.

In dealing with the subject of mange, I shall refer in detail to sarcoptic mange in the dog, and then pass under review the acari causing mange or scabies as it affects the other two species of domestic animals.

SARCOPTIC MANGE IN THE DOG.

There are three forms of mange in the dog—Sarcoptic mange, Follicular mange, and Symbiotic mange affecting the ears causing acariasis or parasitic canker. Of these, indeed of all skin diseases of the dog, the most common is sarcoptic mange. That conclusion is the more forced upon one when a systematic examination is made of the scrapings of the lesions in all skin cases observed in practice. On many occasions difficulties may arise in discovering the cause of the disease, but with practice the parasite in one or other of its stages may easily be found as a rule, in sarcoptic mange, when one becomes familiar with the lesions in which the acari are likely to be present. That is my own experience. At first I had the greatest possible difficulty in demonstrating the parasites in sarcoptic mange, but now I am usually able to do so without much loss of time.

* Read at the meeting held on Dec. 10th.

Occurrence. Sarcoptic mange affects dogs of all breeds and of various ages. I have seen a great many cases lately in young dogs. One of the last cases I had appeared in a Pomeranian puppy only four weeks old. At the time the puppy was brought to my notice the disease had extended nearly all over the body, pointing to infection shortly after birth. No information could be obtained as to the source of infection; the owner told me that the dam was apparently quite healthy.

Etiology. The cause of the disease was first demonstrated by Grohier in 1814, and has since been described by Gurlt and Hertwig, Gerlach, Fürstenburg, Robin, Delafond, Mégnin, and others. It is a variety of the *Sarcoptes Scabiei*.

The *Sarcoptes Scabiei* belong to the Psoric Sarcopitidae of the order Acarina and the class Arachnida. It is white or grey in colour and almost microscopic in size. The body is oval, convex on its dorsal surface and flat below. (Photos 1 and 2). It is covered with a fine chitinous envelope which is marked by fine sinuous streaks and presents bristles and spinules at various parts. In front, the mouth parts (maxillae, palps, mandibles) form a stout conical rostrum which is flanked on either side by a thin expansion, the cheek, giving it a somewhat horseshoe-like appearance. The limbs are very stout and short and number four pairs in the adult, two pairs being attached to the body at the side of the rostrum and two pairs under the posterior portion of the body. The two posterior pairs are so completely covered that they cannot be seen when the sarcopt is viewed from the dorsal surface. Their presence then is only indicated by the long bristles which extend beyond the margin of the body from the extremities of the limbs. On the dorsal surface there are two long spinules behind the rostrum, three strong spinules in a triangle behind the second pair of legs on each side, seven spinules disposed in two rows on each side of the anus, and four hairs projecting backwards from the posterior margin of the body. The anus is terminal. Some of the limbs end in ambulatory suckers. The sucker is a slight membranous expansion, tulip shaped, attached to the end of the limb by a long thin stalk. The adult female is provided with suckers on the first two pairs of limbs, the adult male on the first two and fourth pairs. The other limbs end in long bristles. The adult female of the *Sarcoptes scabiei* v. *canis* is about .35 m.m. long and .26 m.m. broad, the adult male is .2 m.m. long and .15 m.m. broad. According to Mégnin the varieties of sarcoptes may be distinguished by their size, but the specimens which I have measured in the horse and dog correspond very closely.

Sarcoptes Notoedres. In three cases of mange which I examined in the dog this year, the sarcoptes present was the *Sarcoptes notoedres* (or *Sarcoptes minor*) of the Subgenus *notoedres*, varieties of which commonly cause sarcoptic mange in the cat and rabbit. This parasite is easily recognised among the sarcoptes by the following features. It is much smaller than the ordinary sarcoptes, its body is nearly spherical, the streaks on the upper surface of the envelope form concentric rings, the anus lies on the dorsal surface, and on each side of it there are six instead of seven spinules. (Photos 2, 3, 4, and 5). The average size of the specimens which I have examined are for the female .21 m.m. long and .15 m.m. broad; for the male .14 m.m. long and .1 m.m. broad. The eggs are .1 m.m. long and 0.7 m.m. broad. In the first case the dog was an aged mongrel and the lesions were confined to one side of the face. The hair was removed over a considerable area, the epidermis was greatly thickened and presented an appearance similar to the surface of the dog's pad. The excess of epithelium could be easily scraped off. Numerous parasites in various stages of their development were found in the lesions. The eggs were packed together

in what appeared to be nearly straight galleries, almost vertical to the surface of the skin.

The second case was a black and tan terrier about two years old in good condition. Hair was removed in patches from various parts of the head, around the eye, face, forehead, and almost entirely from the external ear. The skin over these areas was slightly thickened and wrinkled. Epidermal thickening was especially marked at the edge of the external ear. There were no other lesions. In scrapings from the edge of the ear female parasites and their eggs were extremely numerous. No evidence could be obtained in either case of the source of infection; possibly it was a mangy cat.

Third case of Sarcoptic mange in the dog due to the *Sarcoptes Notoedres*. Since writing this paper I have observed a third case of sarcoptic mange in the dog due to the *Sarcoptes notoedres*. The affected animal was an Irish terrier dog, two years old, in fair condition. It had only recently recovered from distemper. For about a week it had been noticed scratching its head, ears and elbows very much. Over these areas the skin was becoming very thin and a few ulcers had resulted from the scratching. A little epidermal thickening had formed on the skin at the side of the outer canthus of the right eye. This was scraped off and examined. It contained numerous specimens of the *Sarcoptes notoedres*, chiefly females and their eggs. The dog was said to have been in the habit of playing up to two or three weeks previously with a cat which had some affection of the skin of the head, probably sarcoptic mange.

Development of the *Sarcoptes*. The ovigerous female by means of its strong rostrum burrows into the epidermis and forms a gallery which may be straight or curved. This gallery it may make in as short a time as 24 hours. In places where the skin is thin and unpigmented the entrance to the gallery appears as a dark spot on a slight elevation. In the gallery the parasite soon begins to lay its eggs.

The Egg is ovoid in shape and about .15 mm. long and .08 mm. broad. Its contents are granular and it is covered by a thin homogeneous tough envelope. The number of eggs laid vary from 19 to 40, 15 probably being an average number. (Photo 6). I have counted as many as 50 eggs in one gallery on several occasions. Frequently only five or six eggs may be found in the neighbourhood of an ovigerous female. In the egg sometimes the larva may be noted in various stages of its development. (Photo 7). Before hatching out it lies in the egg with the bristles of the posterior limbs curved round the posterior part of the body. The larva hatches out in from three to eight days and leaves the gallery. Mégnin states that under most favourable conditions this may take place in 24 to 48 hours. The shell of the egg from which the larva escapes is split vertically at one end and has the form of an opened oyster shell; it is fairly characteristic.

The Larva is very small. It is provided with three pairs of legs, the two anterior pairs carrying suckers, the posterior pair bristles. It becomes quiescent and moults on two or three occasions to allow of its increase in size. (Photo 8 and 9). On the last occasion it becomes changed in a nymph.

The Nymph is much smaller than the adult, it is provided four pair of legs similar to those of the female, but the sexual organs are not developed. (Photo 10). It soon moults and is converted into the

Adult, Male or Female. The adult males are few in number and are much smaller than the females. The females when first formed are said to be pubescent. After coupling with the males, they moult and become changed into the ovigerous females which are provided with a vulva behind the anterior limbs on the ventral aspect. In each female as a rule only one egg may be seen. These changes occupy a period of two or

three weeks. Gerlach regards the average time for development as 15 days and the average number of progeny as 15 individuals, five males and ten females. He therefore estimates that from one ovigerous female $1\frac{1}{2}$ millions may be produced in 90 days, thus indicating the enormous increase in the number of parasites and consequent development of mange that may occur within a very short period.

Resistance of the Sarcoptes. It is of great practical importance to know the longevity of the parasite removed from its host. How long will the sarcoptes live when removed from the skin? A few observations have been made to elucidate this question. According to Gerlach the sarcoptes of the horse die in a few days in dry air, but live for about a fortnight if kept moist. In specimens from the dog which I have kept on several occasions the adult acari and their eggs begin to break up after five days although kept warm and fairly moist. It is quite possible that in certain circumstances the sarcoptes may live in infected kennels or stables longer than these observations would indicate, but probably not longer than three or four weeks. As for the action of various agents on the acari, observations have been made under the microscope to note when the acari become quiescent after the agents had been applied, and their power of infectivity has also occasionally been tried. The parasites are quickly destroyed by exposure to a temperature near boiling point, by 10 per cent. creosote, carbolic acid, oil of tar, Peruvian balsam, bi-sulphide of carbon, creolin, tincture of iodine, petrol, oil of turpentine, potassium sulphide, 10 per cent. caustic potash and soft soap. The efficiency of these drugs in practice as parasitocides depends on their power of penetration, and their suitability is related to their toxicity and other circumstances.

Transmission. Sarcoptic mange is chiefly transferred by direct contact with affected animals, and this is the more likely if the disease is advanced. Dogs may also, but less commonly contract the disease from infected litter, by introduction to infected kennels, from attendants, by clothing and brushes. Animals which are frequently groomed and washed are less liable to become affected.

Method of Action of the Parasites. The sarcoptes produce their symptoms by irritation of the skin through biting, burrowing into the epidermis, but chiefly through the excretion of some irritating substance. This latter method of action has been well shown by an experiment of Gerlach. With a very fine needle he traced a groove in the epidermis and then moistening the point of the instrument with fluid from a crushed parasite re-introduced it into the groove. When the dermis was reached there was instantaneous pain, succeeded by the appearance of a papule and vesicle with pruritus.

Period of Incubation. The interval between infection and the appearance of noticeable symptoms varies with the number of acari which find their way on the body of the host, and also upon their vigour. In moderate infection the condition is not noticed for two or three weeks.

Symptoms. One of the first symptoms noticed is pruritus, the dog frequently scratches itself with the hind or even the fore limbs, rubs its body against neighbouring objects and bites itself. It presses very firmly against the hand or brush which is applied over its skin and when the skin is scraped, the dog makes vigorous scratching movements with its hind limbs. The intensity of the pruritus varies with individuals, is greater in thin-skinned animals, but not invariably so, is not so marked in puppies as in older animals. It may depend on two factors, the irritability of the skin and the potency of the excretion of the sarcoptes. It does not

appear to be related so much to the number of parasites; in some cases I have noted the parasites were easily found, although the irritation was not very great. The pruritus is markedly increased when the dog becomes heated. This is due to the increased activity of the sarcoptes. (Photo 11.) The first part of the skin usually invaded is the head. The lesions there appear around the eyes, on the face and the outer side of the ears. They extend from the head into the intermaxillary space and to the neck. By scratching and rubbing, the parasites are transferred to the hind and fore limbs, and also to the under aspect of the thorax and abdomen, and lesions appear in these situations. On the limbs the lesions are most marked at the back of the elbow and above the hock. In severe and old-standing cases the disease involves the back and ultimately the whole body. In the early stages the epidermis over small areas becomes roughened, thickened, lumpy and scaly and the hair is cast off. The patches are irregular and increase in size at the edges. Little nodules

ings, about the size of a pin's head or more, sometimes be seen and felt. Where the skin is unpigmented, it is slightly reddened and a little dark spot may be seen on the centre of each nodule. This is most commonly noticed on the abdomen and side of the chest in thin-skinned dogs. The nodules are chiefly of epidermal formation, and indicate the point of burrowing of the ovigerous female sarcoptes. The parasite may be found if a deep scraping be taken over these spots. Occasionally small pustules about the size of millet seeds or larger, develop especially on the abdomen, as the result of the biting or piercing of the skin by the parasites, but I have never been able to discover a sarcopt in the pustules. Later the skin became very scaly, and large thin grey epidermal flakes are cast off or remain partly adherent to the neighbouring hairs. In cases where the skin around the eyes is involved and becomes denuded of hair, the dog presents a lemur-like cast of features. As a result of the thickening of the skin in that region, the eyelids may be slightly intumed and a conjunctivitis with a purulent discharge sets in. The thickening of the epidermis is usual greatest at the points where the dog cannot scratch or rub properly, e.g. the forehead, the tips of the ears, and these are the places from which scrapings should be taken for the purpose of examination. On account of the scratching, some areas of the skin such as at the side of the head, behind the elbows, and under the abdomen and chest, become reddened, moist and ulcerated. These ulcers may bleed and afterwards become covered with black scabs. In some cases there is a peculiar odour of the skin, almost like that of urine. As a result of the restlessness produced by the parasite and its excretion, the animal soon loses condition and may even become emaciated and very weak. The skin becomes greatly thickened and wrinkled. In neglected cases the dog may die from exhaustion after some months.

The progress of the disease is retarded by good grooming, frequent washing, and a generous diet, but is hastened by debility, poor condition, and bad hygiene.

The diagnosis is rendered probable by the appearance of the symptoms above described, especially by the pruritus and the situations of the lesions, but it is only absolutely certain when the parasite is discovered. In most skin diseases nowadays I am never satisfied with my diagnosis until I have made a microscopic examination of scrapings of the skin. The method I adopt is as follows: I note the parts of the skin where the epidermis is thickened and rough, almost wartlike. From these parts I scrape off the epidermis until the corium is exposed and the surface becomes moist or bleeds. It is as a rule of no service to take scrapings from the skin which is congested but not thickened either at the edge of the lesions or elsewhere, or to

examine the scales detached from the skin but adherent to the hairs, or the scabs of blood which have formed over the ulcers, the result of scratching. I then mix the scrapings with a 10% watery solution of caustic potash or soda on the surface of a slide, or better, rub them together in a small mortar, but use only sufficient alkali to make a soft paste. The alkali softens the scrapings, renders them transparent but does not act upon the chitinous covering of the parasite or its eggs. The material may be examined after a few minutes, but it is best to wait for half-an-hour or more to allow of the more complete action of the alkali. The mixture is then spread in a thin layer over a clean slide, and a second slide pressed firmly down over the scrapings to flatten them out. This makes the film sufficiently clear for a microscopic examination. The preparation is then placed on the platform of the microscope and examined with a magnification of 40 or 50 and with a moderate light, such that the contour of the epithelial scales are appreciable. The preparation is then subjected to a systematic scrutiny and if necessary the whole of it examined. The examination only occupies a few minutes. Sometimes it is necessary to search several preparations before the parasite can be discovered. As a rule it will be found in one or several of its stages, sometimes an egg or two, perhaps containing larvæ, sometimes one or several free larvæ, nymphs or adults; generally the latter are females, males are seldom seen. The discovery of the parasite is most difficult when the cases have been previously treated. The following is a list of a dozen cases, giving the age of affected animals and the results of microscopic examination.

Breed.	Age.	Parasites found.
Scotch collie	6 mos.	1 female, 1 larva, several eggs
Black pom.	4 wks.	2 females and nine eggs
Irish terrier	4 mos.	1 female
Scotch collie	adult	1 ovigerous female, several eggs
Yorks. terrier	5 mos.	1 female
Collie	5 "	several adults, larvæ, eggs
Irish terrier	3 "	2 females
Chocolate pom.	7 "	4 eggs containing larvæ
Fox terrier	3 yrs.	several adult sarcoptes
Irish "	2 "	1 female
Mongrel "	aged	1 female and 1 egg
Irish "	9 mos.	several sarcoptes, adults, [larvæ.

It has been recommended that the mixture of scrapings and alkali be centrifugalised previous to examination, but that can only be of service if a large quantity of alkali be used in the first instance.

Differential Diagnosis. Several skin diseases may be distinguished from sarcoptic mange by their symptoms and the result of microscopic examination. The following may be noted:—

Follicular Mange often attacks the same areas as in sarcoptic mange. It is not, however, accompanied by much itching. In the purulent form the small worm-like demodex may be easily discovered in films of pus from the minute abscesses. (Photo 12). In large abscesses with blood stained contents the parasites are difficult to find. In the squamous form in scrapings of the thickened epidermis treated as for sarcoptic mange the small demodex is easy to demonstrate.

Ringworm is uncommon in the College practice. It is accompanied by little or no pruritus and the lesions are circular in outline. Scrapings are taken and treated as for mange, but the hairs must be particularly examined. On a slide a thin film is made, covered with a cover glass and examined under a fairly high power, 200 to 500. The broken condition of the hairs may be noted and the round colourless spores of the

trichophyton identified near the broken ends in or around the hairs.

An Itchy Condition of the skin of the back and butt of the tail is noticed frequently in adult dogs. The skin is often scaly, wrinkled, reddened, and the hair may fall out in patches. No parasites can be found in the lesions. Many cases of skin diseases that are diagnosed as eczema are no doubt affected with sarcoptic mange.

I need hardly refer to *Symbiotic Mange* which affects only the inner side of the external ear. The parasite which causes it is commonly called the symbiotes auricularum but more properly the otodectis cynotis. (Photos 13 and 14). These parasites may often be seen with the naked eye as grey specks moving over the brown crusts when the inner surface of the external ear is examined. The cases are not nearly so numerous in the dog as in the cat.

The Harvest Bug occasionally causes much pruritus in the dog.

Treatment of Sarcoptic Mange. Attention should be paid to the complete isolation of the patient to prevent the spread of the disease to other dogs. Whatever treatment is applied, the chief secret of success is thoroughness in its application. One sometimes considers the desirability of clipping off the hair and certainly in long haired dogs the clipping of the coat facilitates treatment, but this need not be done unless the case does not improve. I have the dog first washed thoroughly with soap and water in order to remove the scales and the excess of epidermis. The kind of soap used, I do not think matters, so long as it is carefully rinsed off afterwards. I usually recommend a hard soap. The dog is then dried and a parasiticide dressing applied. I commonly use a dressing consisting of sulphur sublim 2 parts, oil of tar, potassium bicarb aa 1 part and lard 8 parts. This ointment is well rubbed into and around the lesions, a much greater area than is apparently involved being dealt with. When there is any doubt as to the extent of the disease, the whole body is treated. In the latter case, during cold weather, the ointment is applied to one half of the body one day and to the second half the following day. The ointment is applied again on the third day and the animal washed at the end of the week. The bedding of the kennel is destroyed, a little 1 per cent. solution of Jeyes' fluid sprinkled over the floor and walls and new straw or other bedding laid down. This is done every week till the animal recovers. The itching soon ceases. The skin, however, remains scaly and the hair continues to fall out for a time. This treatment is continued till the new hair begins to appear. The skin is usually quite normal again in three or four weeks. During treatment the dog is allowed a generous diet, and if the weather is cold, kept warm and comfortable. The treatment of such cases is always most difficult in cold weather. In refractory cases tonics such as liquor arsenicalis may be given internally, in addition to the external treatment. As for the medicinal agents used, care should be taken to apply no dressing that is likely to be poisonous. The dressing may be licked off and swallowed. On that account mercurial, creosote and carbolic preparations should be avoided. Sulphur and oil of tar are effective parasiticides which have no serious effect upon the patient. The alkali may ensure greater penetration of the active agents to allow of their reaching and destroying the parasites, and in the form of an ointment these agents are more intimately incorporated with the skin. Because of a deficiency in this respect watery dressings are not so efficacious. Of other preparations used Huytra and Marek employ the following dressing: Oil of tar, soft soap aa 1 part, alcohol $\frac{1}{2}$ to 10 parts. Friedberger and Frohner recommend cresol in the form of—cresol, soft soap aa

1 part, alcohol $\frac{1}{2}$ to 10 parts. Peruvian balsam dissolved in 1 to five parts of alcohol may be applied with success in mild cases of the disease in small dogs, is pleasant to use but is expensive.

After recovery of the animals, the bedding should be burnt, the kennels disinfected with boiling water or 2 per cent. creolin or other strong disinfectant and the utensils, brushes, clothing, boiled or immersed in some reliable disinfectant fluid.

Danger of Transmission of Sarcoptic mange of dogs to other animals and to man. Finally I may refer to the transmissibility of sarcoptic mange of the dog to other species of animals. The *Sarcoptes scabiei v. canis* has the dog only as its permanent host, but occasionally it may find its way to and produce temporary effects in other animals and in man. According to Zürn the sarcopt of the dog can be conveyed to the pig and horse. Occasionally the owner of a mangy dog tells us that his or her hands have become very itchy and little nodules may be seen between the fingers or on the arms.

On one occasion a woman brought to my notice a dog affected with sarcoptic mange. She told me that she was accustomed to allow the dog to sleep in her bed and that the skin of her abdomen and breast had become itchy and reddened. After application of the ointment which was used also for the dog, the affection soon disappeared. The appearance of canine scabies in man has been recorded by Grogner in a student after treating a mangy dog, by Viborg in a man and a woman who possessed an affected animal, by Beit in a child, by Hertwig, by Delafond in a student and himself. Many cases in human beings have been seen by Friedberger and Fröhner in Germany. Gerlach transmitted the disease artificially from the dog to man. In many of the cases recorded, recovery only took place after the application of a parasiticide dressing.

DESCRIPTION OF PHOTOGRAPHS.

1. *Sarcoptes Scabiei v. canis*. Oviparous female—ventral aspect. Contains one egg obliquely placed between last two pairs of legs. The parasite is so transparent that the spinules on the dorsal surface can be seen.
2. *Sarcoptes Scabiei v. canis*. Male—ventral aspect. The ambulacral suckers of the two anterior pairs of limbs are folded backwards.
3. *Sarcoptes Notoedres* (dog). Female—ventral aspect.
4. " " " " dorsal aspect.
5. " " " " Male above, young female below; one empty egg at right side.
6. *Sarcoptes Notoedres* (dog). Eggs from one gallery.
7. " " " " Egg containing larva fully developed.
8. *Sarcoptes Notoedres* (dog). Two free larvæ—ventral aspect.
9. *Sarcoptes Notoedres* (dog) One free larva—more highly magnified than (8).
10. *Sarcoptes scabiei v. canis*. Nymph—ventral aspect.
11. Collie affected with sarcoptic mange. Lesions marked round the eyes and on hind limbs.
12. *Demodex Folliculorum* (dog).
13. *Otodectes Cynotis* (dog). Female—ventral aspect.
- " " " " Male—ventral aspect.

The CHAIRMAN: We have all listened with pleasure and profit to Prof. Craig's interesting paper, and I am sure that several members will be able to contribute something to the discussion on this very important subject.

Mr. WATSON: This is a subject of great importance, and it has been dealt with by Prof. Craig in the extremely able way that characterises all his handling of such questions. But in view of the importance of the subject I do not think that at this late hour we could

do justice to the paper in any discussion that might ensue. I therefore propose that we adjourn the discussion until our next meeting in May. By that time the paper will have been printed and circulated and we will be in a much better position to do the justice to it that it deserves.

Mr. NORRIS: I have very much pleasure in seconding the motion. Would you allow me to mention one point that might be of use? Prof. Craig mentioned the great difficulty in finding these parasites in some specimens sent to him. Now, I have some little experience in examining material sent in for microscopic diagnosis. I have found great difficulty owing to the material not being properly procured. It only gives men a tremendous lot of trouble and worry for nothing, examining specimens not properly collected. I think that practitioners should be instructed that when sending in material they take every precaution to adopt the correct procedure in obtaining the specimens. A great deal depends upon the selection of material for the microscope.

The CHAIRMAN: Is it your wish that this discussion should be postponed for a future meeting? Does that meet with your unanimous approval?—Yes.

Mr. HENEY: I think it is a very poor compliment to the lecturer to suggest that this discussion should be postponed for about six months. We have about half-an-hour to spare, and it might be better to discuss the matter to some extent and then postpone further discussion, if it be your pleasure to do so. It is not fair to us that the scientific part is left to the end, and that three-fourths of the time is occupied in arguing small matters.

Mr. WINTER: I think that an adjournment of the discussion is the very highest compliment we can pay to the lecturer.

Mr. WATSON: It is meant as a compliment to him.

Mr. WINTER: I heartily approve of the adjournment. We could not possibly have a discussion lasting half-an-hour that would do justice to the paper.

It was eventually agreed that the discussion on the paper should take place at a subsequent meeting.

SOUTH EASTERN VETERINARY ASSOCIATION.

[NATIONAL V.M.A. SOUTHERN BRANCH.]

The second annual general meeting was held at the Royal Mount Ephraim Hotel, Tunbridge Wells, on Thursday, January 15th. Mr. James Crowhurst (F), Canterbury, presided, and the members present included Prof. Wooldridge (F), London; Messrs. E. Lyne Dixon, Margate; Percy Gregory, Tonbridge; Elmer Ebbetts, Rochester; Cecil Crowhurst, Maidstone; J. H. Ripley, Hurst Green; A. C. Burton, Battle; T. A. Huband (F), Hastings; J. B. Dier, East Grinstead; W. Caudwell (F), Chertsey; H. P. Hogben, Folkestone; T. F. Hogben, Ash; P. J. Austin (F), Pembury; D. R. Chalmers, Tunbridge Wells; T. Hibbard, Gillingham; J. Basil Buxton (F), London; E. W. Morris, Uckfield; G. Fordham, Ashford; W. R. Emery, Guildford; W. W. Gulliford, Lympne, Hythe; G. H. Livesey, Hove, President, Southern Counties Division, N.V.M.A.; W. H. Brown, South Kensington; A. Whicher, Bexhill-on-Sea; J. M. Richardson, Deal; E. M. Perry, Eastbourne; Septimus Dixon, London; Theo. C. Toope, Dover, hon. secretary and treasurer; and two or three others who omitted to sign the attendance book.

The minutes of the last meeting, which were taken as read, were adopted.

ELECTION OF OFFICERS.

Mr. T. A. HUBAND said he had very great pleasure in proposing the election of their friend Mr. E. Lyne Dixon, as President of the Association for the ensuing year. When Mr. Toope was proposing the formation of that Society he very kindly asked him (Mr. Huband) to give what little help he could, a request which it had given him great pleasure to respond to. He was more than pleased that Mr. Toope's efforts had been so successful. Two names were very prominent at that time, one was the name of a gentleman very highly esteemed in Kent, and the other was equally highly esteemed in Sussex. He regretted to say that one was no longer with them. He referred to the late Richard Roberts, and they deplored his loss, but the other remained, and it was his proud privilege, and he was sure all the members would support him in his proposition, to move that their friend Mr. Dixon be elected President for the ensuing year. He did not like saying things in praise of a man while in his presence, but Mr. Dixon and he were college chums and had been good friends ever since, and the longer he had known Mr. Dixon the greater had become his respect and esteem for him. He had great pleasure in asking them to elect Mr. Dixon as President of the South Eastern Veterinary Association for the ensuing year.

Mr. JAMES CROWHURST, the retiring President, said he rose with great pleasure to second the proposition. It would have been his privilege of putting that proposition before the Council when they met to consider the question of officers for the ensuing year, but unfortunately through some mistake he failed to receive a notice of the Council meeting, and was therefore not present. He had, however, previously spoken to Mr. Toope and recommended strongly that Mr. Dixon should be his successor. He (Mr. Crowhurst) felt convinced that the interests of the Association would be in good hands if they elected Mr. Dixon as President. Mr. Dixon's views and his own were much in accord, and he was sure the good work done in the past would be carried on with considerable benefit to that Association. He felt it desirable that a successor should be nominated, and that the honour of being President should not be held by one too long. He had been elected for a second year, and he thought that was more than he should have accepted, he felt very strongly that it was desirable that the honour should be passed round, for he believed in that way it was beneficial to the Association.

The motion was carried unanimously, and on taking the Chair Mr. Dixon was given a most cordial reception.

Mr. DIXON said his first duty was the very pleasant one of thanking them most sincerely for their unanimous vote in electing him as President of that Association. Not knowing for certain whether any other gentleman would be nominated, or whether he should be elected or not, he had not prepared the usual presidential address to deliver that day, and in view of the work there was to be got through he thought perhaps it was better that that was so, but it would be his pleasure to read his address at the next quarterly meeting wherever that might be held. He could not but refer in the first place to the good work that that Association, although so young, was doing for the veterinary profession. He thought that they were unanimous one and all as was evidenced by the large gathering they had that day, and that they were all anxious that matters appertaining to their own interests should be safely guarded. He thought by the correspondence that Mr. Toope had had with regard to the insurance companies' fees was evidence of that. If when they were combined they could not get things righted, how could they have done anything individually? It was only by united efforts and by remember-

ing the motto of their College that "Unity is strength" could they expect to get that which they desired. During the past two years the position of President of that Association had been held by Mr. James Crowhurst, who was a highly esteemed member of the Kentish practitioners, and they all knew that he had carried out the duties most satisfactorily, with credit and honour to himself and in the best interest of the Society of which he was President. He (Mr. Dixon) would endeavour, as far as possible, to follow in Mr. Crowhurst's footsteps, and to do what he could to carry out the duties the members had put on him faithfully, zealously and to the best of his ability. He could only say he wished all the members a happy and prosperous New Year, and he hoped that Association might flourish and prosper, and he hoped by united action they would be able to further and better the conditions which they all had so much at heart.

Vice-Presidents. Messrs. J. Crowhurst, W. Caudwell, W. H. Crowhurst, P. Gregory, T. F. Hogben, and E. W. Morris were elected on the proposition of Mr. T. Hibbard, seconded by Mr. Emery.

The Council of the Association was elected, on the motion of the President, seconded by Mr. Buxton, to consist of the following:—Messrs. J. B. Dier, G. W. Dunkin (Canterbury), C. Crowhurst, Elmer Ebbetts, F. C. Gillard (Folkestone), T. Hibbard, T. A. Huband, J. W. Richardson, and J. H. Ripley.

Inspectors' Committee. This Committee was elected as follows:—The President, Vice-Presidents, Messrs. J. B. Dier, C. Crowhurst, Elmer Ebbetts, T. Hibbard, and J. H. Ripley, on the motion of Prof. Wooldridge, seconded by Mr. Emery.

Hon. Secretary and Treasurer. The President proposed the re-election of Mr. Theo. C. Toope. In doing so, said no words were required to recommend that motion to their notice. They all knew what a worker Mr. Toope was and how he had the interest of the Association at heart.

Mr. JAMES CROWHURST, in seconding, said he had had some experience of Mr. Toope's work from the inception of that Association, and he was sure they were very fortunate indeed in having as Secretary a man who had given and was prepared to give so much time and attention to the work of that Association. They could not possibly have a better man than Mr. Toope in every way. (Applause).

Mr. TOOPE briefly acknowledged the compliment.

Hon. Auditor. Messrs. H. P. Hogben and G. W. Dunkin, were re-elected, on the proposition of Prof. Wooldridge, seconded by Mr. Gregory.

NEW MEMBERS.

Mr. BURTON, Battle, was proposed by Mr. Ripley, and seconded by Mr. Morris, for election as a member of the Association.

Mr. T. CLYDE, Dover, was proposed by Mr. Toope, and seconded by Mr. Richardson.

Mr. PERRY, Eastbourne, was proposed by Prof. Wooldridge, and seconded by Mr. Gregory.

All three were duly elected.

NOTES AND OBSERVATIONS ON TWENTY CASES OF TUBERCULOSIS.

WILLIAM CAUDWELL, F.R.C.V.S., Chertsey.

Mr. President and Gentlemen,—A few weeks ago it occurred to me that if our zealous secretary had not much on the tapis for this meeting he might accept an offer from me to read a few notes to you on cases that I have dealt with under the Tuberculosis Order of 1913, and I take this opportunity to thank him for placing the matter on the agenda.

It is with some diffidence that I submit these notes for your consideration, inasmuch as I feel that many of

you who are inspectors have had a much larger experience of the disease than myself, and have also dealt with a larger number of cases under the Order, but I trust that an interchange of experiences will prove helpful to all of us.

I have divided my cases into two categories, first those which I confirmed by clinical and other evidence, and second those which were not confirmed. The number of each case corresponds with the number in my report.

CASES OF TUBERCULOSIS.

Case 2. Cow in milk.

Symptoms. Emaciation, coughing frequently, accelerated respiration, crepitation in both lungs, temperature 105°. The owner declined his consent to apply the tuberculin test, and eventually he had her slaughtered.

Post-mortem appearances. Both lungs are in a condition of advanced tuberculosis, the left costal pleura is thickened with tuberculous growths. The mediastinal and bronchial glands are much enlarged. The dorsal, mesenteric and hepatic lymphatic glands are tuberculous. The liver is also tuberculous.

Case 3. Cow in milk, six years old. She calved ten weeks ago.

Symptoms. Emaciation, temperature 102.3°, coughs occasionally, crepitation in the left lung, induration of the right posterior quarter of the udder. I obtained a sample of milk from the diseased quarter and made a microscopical examination but failed to find any acid-fast bacilli. With the owner's consent I applied the tuberculin test, and a reaction followed, the temperature having risen 4° about the 13th hour after the injection.

Post-mortem appearances. Carcase emaciated, milary tuberculosis of both lungs. The bronchial and mediastinal glands are much enlarged and caseous. The hepatic glands and the liver are also tuberculous.

Case 4. Cow in milk, five years old. She calved a few weeks back.

Symptoms. She is emaciated, and has a slight cough, the right half of her udder is much enlarged, hard, nodular and painless, and the right supramammary lymphatic gland is also much enlarged. I took samples of milk from the diseased quarters, and on making a microscopical examination I found acid-fast bacilli in the smears.

Post-mortem examination. The right half of the udder weighs 28 lb; it is very firm and cirrhotic, and contains small tubercles throughout. The right supramammary gland is 5 inches long. The left half of the udder appears to be normal and weighs 7 lb. Both lungs are tuberculous, especially in the anterior lobes, and the pleura is thickened. The bronchial and mediastinal glands are enlarged. The mesenteric glands are much enlarged and caseous. The hepatic glands are slightly diseased. The liver is free from tubercles, but its ducts contain some flukes. The spleen and kidneys are healthy. The right lumbar lymphatic glands are much enlarged. Both horns of the womb are tuberculous, the cotyledons are of a bright yellow colour, and the smears which I prepared from them are very rich in tubercle bacilli. A smear from the muco-purulent fluid contained in the womb shows only a few tubercle bacilli.

Case 5. Cow in milk.

Symptoms. Body emaciated, udder apparently healthy, eyes sunken, frequent cough, crepitation in the right lung. Temperature 105°. I tested the animal with tuberculin by injecting 50 minims subcutaneously, and I applied the ophthalmic test at the same time. At the 12th hour a bead of muco-pus had appeared in the inner canthus of the eye, accompanied with a flow of tears.

Post-mortem appearances. The pharyngeal, bronchial and mediastinal glands are enlarged and caseous, and both lungs are extensively tuberculous. The hepatic and gastric lymphatic glands are slightly enlarged. The

spleen and liver are healthy. One kidney contains small tubercles. The supramammary lymphatic glands also appear to be slightly tuberculous, but the udder seems to be normal.

Case 7. Cow in milk, five or six years old.

Symptoms. Very emaciated, coughs occasionally, crepitus in both lungs; right supramammary gland is enlarged, and the temperature is 103.8°.

The owner decided to have her slaughtered without reference to compensation.

Post-mortem appearances. The lungs are in a very advanced condition of tuberculosis, and the bronchial and mediastinal glands are much enlarged and caseous. The lungs weigh nearly 48 lbs. The parietal and visceral pleurae and also the peritoneum show extensive tubercular proliferations. The pharyngeal and the hepatic glands are enlarged. One horn of the womb is also tuberculous.

Case 11. Cow in milk, seven years old.

Symptoms. Emaciation, coughing, crepitus in both lungs, tenderness and grunting is evinced on percussing the chest. Temperature 101°. The udder is indurated in its right front and left hind quarters. I found no acid-fast bacilli in the milk.

Post-mortem appearances. Carcase much emaciated. Both lungs extensively tuberculous, some of the lesions are old and caseous and others are recent. The bronchial and mediastinal glands are much enlarged and caseous. Liver and spleen normal. A lobule in one of the kidneys contains some small tubercles. The mesenteric glands are much enlarged. Both horns of the uterus are tuberculous, one is diseased to a greater extent than the other; both contain a quantity of thick, white, tenaceous mucus, the cotyledons are enlarged, the walls are thickened with tuberculous growths, and numerous tubercles stud the mucous surface.

Case 13. Cow in milk.

Symptoms. She is very emaciated and coughs; auscultation reveals crepitation in both lungs; her appetite is very bad, and she has profuse diarrhoea. The owner states that she has reached her present condition within a few weeks. Her temperature is 104°. I injected a dose of tuberculin subcutaneously and instilled into the eye a few drops of eye tuberculin. A reaction followed the eye test. I prepared smears from the faeces for microscopical examination and I found acid-fast bacilli in them.

Post-mortem appearances. Both lungs are extensively diseased, and are very large and heavy. Some of the sections show calcification. The bronchial and mediastinal glands are much enlarged, and the pleurae and peritoneum are "grapy." The hepatic and left popliteal glands are tuberculous. One horn of the womb is much diseased throughout its extent, and its wall is an inch thick. The other horn is only slightly tuberculous. Both kidneys show small tubercles in some of their lobules. The liver, spleen, and udder are apparently normal. A prepectoral gland which was felt during life to be enlarged is tuberculous.

Case 14. Cow in milk, 2½ years old, calved eight weeks ago.

Symptoms. She is emaciated and coughs, her temperature is 102°, appetite poor, crepitation in both lungs, especially the right, bowels normal. I am informed that this animal has recently been tested, so I applied the double tuberculin test, and a good reaction followed.

Post-mortem appearances. The bronchial and mediastinal glands and both lungs are in an advanced stage of tuberculosis. The visceral and parietal pleurae are thickened. The mesenteric and the hepatic glands are much enlarged. The liver and both kidneys are slightly tuberculous. The spleen is normal. The womb has recently become impregnated, despite the animal's advanced condition of tuberculosis.

Case 15. Cow in milk, 9 or 10 years old.

Symptoms. She is much emaciated and coughs frequently, breathing accelerated, appetite moderate, temperature normal. Crepitation is audible in both lungs, the faeces are normal. A tumour as large as a cob nut is visible, and is felt attached to the rumen in the angle formed by the last rib and the first lumbar transverse process. The udder is apparently normal. I tested the animal with tuberculin, and a good reaction followed.

Post-mortem appearances. The udder and its lymphatic glands appear normal, and also the pharyngeal glands. Both lungs are extensively diseased. The bronchial and mediastinal glands are much enlarged and caseous. The visceral and parietal pleurae, the visceral and parietal peritoneum and the omentum are all more or less covered with tuberculous proliferations. The heart presents a beautiful specimen of tuberculous pericarditis (a section of which I have brought with me). The liver and spleen are covered with tubercles externally, but their substances are normal. The mesenteric glands are much enlarged, and one horn of the uterus is slightly tuberculous.

Case 16. Cow in milk.

Symptoms. Emaciated, coughs frequently, crepitation in both lungs, the udder is apparently normal, temperature normal, her bowels are relaxed, and I found a few acid-fast bacilli in smears prepared from her faeces. I applied the tuberculin test, and at the 16th hour the temperature had risen to 104.6°.

Post-mortem appearances. Both lungs and their glands are diseased, and there is adhesion of the left lung to the ribs. The liver also contains tubercles.

Case 17. Cow in milk, six or seven years old, calved five weeks ago.

Symptoms. She is emaciated and coughs; her appetite is diminished; the respiratory murmur is increased, but no crepitation is detected; temperature 103 deg. The right front quarter of the udder is very large and is painful; its secretion is changed in appearance. A microscopical examination failed to detect any acid-fast bacilli in the smears which I obtained from it. At the time I tested the animal I found her temperature was 103.6 deg., so I applied the double test. At the 16th hour her temperature was 105.2 deg. and an ophthalmic reaction was present.

Post-mortem Appearances. Both lungs are much diseased and contain scattered foci of small purulent collections. The bronchial and mediastinal glands are diseased and caseous. The liver and one kidney show a few minute tubercles on their surfaces. The mesenteric glands are much enlarged and caseous. Both horns of the uterus are tuberculous to an unequal extent and contain muco-purulent material.

Case 18. Cow not in milk; calved seven months ago.

Symptoms. Body emaciated; temperature 105 deg.; respiration accelerated and accompanied with cooing sounds in both lungs; frequent cough and bad appetite. Her udder appears normal. She is said to have been unthrifty for several months and has wasted rapidly in the last few weeks. At the time I tested her the temperature was still 105 deg., so I applied the double test and a moderate ophthalmic reaction followed.

Post-mortem Appearances. Both lungs are affected with miliary tuberculosis and contain small abscesses. The pleura is covered with tuberculous growths. Some of the lobes of the lungs are connected by adhesions. The bronchial and mediastinal glands are much enlarged and caseous. The lungs weigh 43lbs. The hepatic glands are slightly tuberculous. The liver and spleen are normal. Both kidneys contain good sized tubercles in the bases of many of their lobules (a specimen of which I show you). The mesenteric glands are

enlarged and caseous. The uterus is normal. The udder and its lymphatic glands appear normal.

Case 20. Cow not in milk, six years old.

Symptoms. I found the animal down and unable to rise: body extremely emaciated; cough frequent, appetite bad. I tested her but no reaction followed. The owner slaughtered her himself and I had no opportunity of making a post-mortem examination, but a portion of lung and the uterus were reserved for my inspection. The lung showed the disease in an advanced stage and both horns of the womb were also in an advanced stage of tuberculosis.

Case 21. Cow in milk, five years old.

Symptoms. Body emaciated; udder normal; she coughs frequently, her respiration is accelerated and auscultation reveals crepitation in both lungs, faeces normal. An enlarged lymphatic gland is felt close to right first rib. Temperature 102 deg. She calved in June and was stocked in July. I tested her with tuberculin and her temperature rose 3.5 deg.

Post-mortem Examination. The lungs and the bronchial and mediastinal glands are extensively diseased and caseous, and together weigh 34lbs. The bronchial and mediastinal glands alone weigh 9lbs., and are some of the largest which I have seen although she is a small cow of the Jersey breed. The mediastinal gland is eight or nine inches long. The anterior lobes of the lungs are very heavy and in a state of miliary tuberculosis and the rest of the lung tissue contains caseous masses throughout, which vary in size up to three inches in diameter. The hepatic glands are enlarged and small tubercles are present on the surface of the liver. The other organs appear to be free from tuberculosis. The right prepectoral lymphatic gland is caseous and the size of a pigeon's egg. The uterus contains a foetus about four months old.

Case 23. Cow in milk about five years old.

Symptoms. Emaciation, coughs, crepitation in both lungs; temperature 105°. The udder is apparently healthy, appetite diminished, faeces normal.

I applied the double tuberculin test, and at the 12th hour her temperature had risen to 107.2°, and there was a double bead of muco-pus in the inner canthus of the eye and tears had run down the face.

Post-mortem examination. Both lungs are extensively tuberculous, and the pleura is thickened. The bronchial and mediastinal glands are enlarged and caseous. The right prepectoral gland is enlarged and caseous and it could be felt during life. The mesenteric glands are much enlarged and caseous. The kidneys are normal. The spleen shows some tuberculous growths on its surface. The liver is not tuberculous, but it shows evidence of fluke disease. The womb is tuberculous in both horns. One of the supramammary glands shows slight evidence of caseation.

In this, and in most cases of uterine tuberculosis, I have noticed during the animal's life a sticky mucous discharge adhering to the under surface of the tail opposite the labia, which had escaped from the womb.

Case 24. Cow in milk, about seven years old.

Symptoms. The posterior quarters of the udder are moderately indurated in their upper parts, especially the right one, and the supramammary lymphatic glands are enlarged. The milk obtained from the diseased quarters is quite normal in appearance, but on microscopic examinations of samples which I took, I found acid-fast bacilli in the smears. The cow's temperature is normal, she feeds well, faeces normal. I did not hear her cough, and no evidence of lung trouble could be detected. A few days after my first inspection of the animal, I served the owner with a notice of intended slaughter certifying that she was suffering from tuberculosis of the udder, and after valuation she was destroyed.

Post-mortem examination. I found the udder in the condition already described. Its weight is 28lbs. The supramammary glands are much enlarged, but are not caseous, the right one weighs 9½ ounces. The liver is enlarged and a great number of tubercles are present in its upper and lower lobes both on its surface and in its substance, and its lymphatic glands are enlarged. The bronchial glands are much enlarged and caseous, the mediastinal gland is ten inches long and is cystic. These glands weigh 4lbs. I could not find any tubercles in the lungs, they look exceptionally healthy, and only weigh 8 lbs. without the glands. One of the mesenteric glands is as large as my fist and is caseous. The spleen, kidneys, uterus, and pharyngeal glands are normal.

In nearly all the foregoing post-mortem examinations I have found the lungs and the bronchial and mediastinal lymphatic glands to be diseased. I have found the mesenteric glands diseased in nine cases. The liver was diseased in seven cases, and the kidneys in six. The pericardium and heart in one case. The spleen was seldom found to have any tubercles on its surface or in its substance. I have been surprised at the frequency with which I have found the womb to be affected with tuberculosis, and I consider that it is interesting from a diagnostic point of view. In neither of the cases of mammary tuberculosis would the owners have the tuberculin test applied, nor was it necessary. The lymphatic glands of the liver were often found to be diseased, but the pharyngeal glands in two cases only.

CASES WHICH WERE NOT TUBERCULOSIS.

Case 1. A yearling heifer, suspected to be suffering from tuberculosis with emaciation.

I applied the tuberculin test, but no reaction followed, so the detention notice was withdrawn.

Case 6. Cow in milk, suspected of suffering from tuberculosis with emaciation, and also disease of the udder.

Symptoms. Slight cough, temperature 102.4°, right half of the udder indurated, appetite bad. I obtained a sample of the milk from the diseased quarters and made a microscopical examination for the detection of acid-fast organisms, but none were found. I injected a dose of tuberculin subcutaneously, and instilled a dose of eye tuberculin into the left eye. No reaction followed the double test, so I withdrew the detention notice which I had served. The owner subsequently, on my advice, had the animal slaughtered, and the following were the post-mortem appearances: On removing the abdominal viscera an abscess burst and gave exit to a quantity of putrid, dark coloured pus, which was found to have been contained in the spleen, and it communicated with a fistula in the reticulum. I searched for a foreign body, but none was found. The spleen also contained several small abscesses, as also did the liver and the lungs, and I am of opinion that these were of metastatic origin. I prepared some smears by the Ziehl-Neelsen method, but could find no acid-fast organisms. I also stained other smears with methylene blue solution and found necrosis bacilli in abundance.

Case 8. Cow in milk, suspected of suffering from tuberculosis of the udder.

I made a microscopic examination of some carefully prepared smears, but could find no acid-fast bacilli, so the detention notice was withdrawn.

Case 9. Accidentally omitted.

Case 10. Yearling shorthorn heifer, suspected of suffering from tuberculosis with emaciation.

Symptoms. Emaciation, dulness, loss of appetite, suspension of rumination, no cough, respiration and temperature normal. I applied the tuberculin test and

no reaction followed, consequently the detention notice was withdrawn.

With good nursing the heifer eventually recovered and regained flesh.

Case 12. Cow in milk, suspected of suffering from tuberculosis with emaciation.

Symptoms. She is much emaciated, her coat is dull and erect, appetite variable, diarrhoea was also present. Temperature normal. I obtained a sample of her faeces and found a few acid-fast bacilli in the smears which I examined. I applied the tuberculin test but no reaction followed, so I withdrew the detention notice. Subsequently I tested her for Johne's disease with avian tuberculin which was kindly supplied to me by Sir John M'Fadyean, and a slight reaction ensued. This cow was eventually slaughtered, and I made a post-mortem examination, which confirmed the diagnosis of Johne's disease. The mesenteric lymphatic glands were slightly enlarged and juicy, and the small intestine showed characteristic thickening and corrugations. I prepared smears from a mesenteric gland and also from scrapings of the intestinal mucous membrane, and immense numbers of acid-fast bacilli were present, both singly and in groups.

Cases 18. Two cows suffering with chronic disease of the udder. I obtained samples of milk and made microscopic examinations for the detection of acid-fast bacilli, but none were found. A large number of streptococci was present in each sample of milk. The detention notices were withdrawn.

Case 22. This animal reacted to the tuberculin test, but was not considered sufficiently emaciated to be slaughtered under the Order.

DISCUSSION.

The PRESIDENT said on behalf of the meeting he wished to thank Mr. Caudwell for the very kind thought shown in getting up that paper and recording clinical cases which went to prove that there was hardly any part of the body that was not affected with the disease. That was exemplified in the cattle markets in London, which those who attended the post-graduate course had an opportunity of studying. There were one or two things he would like them to discuss. He would like to ask Mr. Caudwell, who had mentioned uterine tuberculosis, whether in his opinion, or whether in the opinion of any member of the Association present, it was hereditary and was conveyed from cow to calf. In the second place he would like to hear from him as to the reliability of the tuberculin test. He himself had no doubt about its absolute reliability, but he did not know whether Mr. Caudwell had had any case in which the reliability of the tuberculin test had been called into question. Then as to oestrus in tuberculous cows. It was a peculiar fact recognised by the medical profession that oestrus was greater in the human female that was tuberculous or consumptive. He begged to thank Mr. Caudwell for his paper and for the record of the cases he had given.

Mr. TOOPE said there was just one matter he would like to allude to—the question of the premature abortion of tuberculous cattle. He believed Mr. Caudwell had struck the right nail on the head. He (Mr. Toope) believed a great many cases put down to accidental causes were due to tuberculosis affecting the uterine system. He got the impression in his head many years ago that that was so; but within the last five years he had had the opportunity of examining cows that had aborted, and in one or two cases had aborted more than once—and in one case three times. These animals were suffering from tuberculosis of the womb. There were other cases of what was commonly called slinking, which he thought was also due to this, and not due to the abortion bacillus, there being no indication of con-

tagion. The frequency of tuberculous disease of the womb and ovary in these cases being very noticeable after slaughter. In the examination of the mammary gland for the tubercle bacilli, he did not think it was so difficult if they could diagnose the character of the induration of the udder. They might miss the bacillus on the first micro-examination of the secretion, but if persisted in they would get it eventually. He had never failed in a single case to get it. He had brought with him a most interesting specimen of tubercle bacilli from a cow which he had known since its birth. The cow five months ago showed slight induration and swelling in one quarter. He examined the milk and found no bacilli. He subsequently examined the milk again and found sufficient to persuade him that undoubtedly it was a tuberculous udder. She was a good cow, but he persuaded the owner to cease milking her and to report the case to the county. The owner said "No, I will not report it to the county, but will do as you suggest about the milk." She was kept and sent to the market, and an offer of £14 was made for her. The owner did not take it, and a week or ten days after he called to see the cow again, when he found her off her food. He examined the udder, which was larger than before and exceedingly hard and had no milk whatever, but in one quarter pure serum. He centrifuged this, and he found what he thought he could say was nothing less than an almost pure culture of bacilli, afterwards he found it possible to get it without centrifuging; there was no difficulty, and he believed his friend Mr. Buxton would bear him out that it was one of the richest specimens of tuberculous secretions he had examined. It was far and away richer than he (Mr. Toope) had ever examined. He wished to thank Mr. Caudwell for his interesting report of cases, which he hoped would give rise to discussion, but if not it was bound to give rise to considerable thought among them.

Mr. MORRIS said he would like to ask one question that had puzzled him for a long time. He had a cow that went up to 103° F., and he had had several go up to 103.2-5ths, the mean temperature being 100.4-5ths at night and 101° in the morning. These cows were all killed and were found to have a focus of infection. He would like to ask the meeting if anyone had found old tuberculosis surrounded by dense tissue, or, in other words, encapsuled.

Mr. HIBBARD asked Mr. Caudwell whether he considered that these cows with uterine lesions might be affected through transmission from the bull.

Mr. H. P. HOBGEN said he sent a cow from his market for tuberculosis of the udder. He only got a slight reaction, yet it was a very badly affected udder, but the cow had not had the bull at all. He did not think it followed that they could always rely on the test.

Prof. WOOLDRIDGE expressed his quota of thanks to Mr. Caudwell for the paper he had brought before the meeting, and thanked him particularly for the lucid way he had reported the cases and the results of his examinations. He (Prof. Wooldridge) thought at the present time the veterinary inspectors had a chance which had never been held out to them before to assist in the pathological problems connected with the diseases of cattle, and when reporting cases they would do well to follow Mr. Caudwell's example and refer to those cases that did not prove to be tuberculosis, so that from that data they could draw very valuable conclusions later. As Mr. Caudwell read through his cases, one or two points struck him particularly. Hitherto he had had some notion that the right hind-quarter was most frequently implicated. The notion was hazy that he had gathered, but on looking through the cases reported by Mr. Caudwell the same points seemed to crop up, and without getting down to exact cases he noticed in some instances it was the right hind-quarter alone affected, in other cases it was the right half affected, and in others

both were affected, but the right hind-quarter was most frequently mentioned. He would like to know if others had had the same experience. Mr. Caudwell raised a question regarding œstrum. Mr. Caudwell did not regard tuberculous infection as a common cause of recurring œstrum, but he (Prof. Wooldridge) did not agree with Mr. Caudwell. Any stimulation of the genital apparatus might cause reflex action and functional derangement, and oft recurring œstrum. He did not suggest that was the only cause of recurring œstrum, but thought that it was a common cause. On that same point he (Prof. Wooldridge) thought Mr. Toope misunderstood Mr. Caudwell. He did not think Mr. Caudwell suggested that tuberculosis was the cause of the abortion that often occurred. Mr. Toope certainly thought it was, and he agreed with Mr. Toope. Undoubtedly abortion did occur, and recurring œstrum was the origin of that form of abortion.

There was one other point of some importance. He noticed particularly in case No. 20 referred to by Mr. Caudwell, a case which failed to react, and on a post-mortem showed extensive uterine lesions. That answered the point raised by the President, and he would like to agree with the President that it was absolutely infallible—at any rate he thought it was almost infallible, for when they got a cow, or cattle, that failed to react to tuberculin, she might be in the advanced stage. He thought they must recognise that at once, and as inspectors they must realise it—although there had been a failure. He did not think they should dream of applying the tuberculin test to all and sundry cases they suspected. Where symptoms were clear to clinically diagnose tuberculosis they should have sufficient confidence in their ability to diagnose without testing. Then he would like to ask Mr. Caudwell in the case of John's disease what the material was with which he tested.

Mr. CAUDWELL: Avian tuberculin.

Prof. WOOLDRIDGE said avian tuberculin as pointed out was of great service in John's disease, but was by no means consistent. He thought they could say the same thing for any test for John's disease, except the finding of the organism causing it.

Mr. CAUDWELL said something had been said about the failure of tuberculin to react. He had heard nothing said about the ophthalmic test in cases tested where the temperature previously was above the normal. He had hoped they would have heard something about the ophthalmic test in such cases.

Prof. WOOLDRIDGE agreed with Mr. Caudwell it ought to be applied much more frequently than it was. As far as comparing it with the subcutaneous method it was not so reliable, but where cattle were extensively affected one might get the ophthalmic reaction. In other cases where they had got the reaction to subcutaneous test they failed to get the ophthalmic. The best thing to do was to combine the two, and so leave the least margin of error. In cattle it was a reliable test. He found the same applied for other patients, for instance, the wild animals at the Zoo. In the case of monkeys it was somewhat difficult. The ophthalmic test had been applied, but it was not easy in those cases to verify the truth of the whole of the tests. Where there had been no reaction animals had been liberated in the Gardens, and in some cases exposed to infection, and it was difficult to follow them. In those cases where they had had positive reaction it had justified slaughter, but in other cases where there had been no reaction they had almost invariably been found free from tuberculosis. He said almost invariably. Recently he came across three or four cases that failed to react to the ophthalmic test, and yet were affected severely with tuberculosis. In the horse he used the ophthalmic test in conjunction with the subcutaneous, and did not get such good results. As far as the horse was con-

cerned, when testing with tuberculin he used 8 c.c., which was twice the usual dose applied to cattle. In some cases a larger dose still was advisable in the horse, and if there was no tuberculosis there was no harm, while if there was tuberculosis they were far more likely to get reaction.

Mr. GULLIFORD said he was called in by the police to a dairy of cows and found one he strongly suspected. He continued his examination and found two more. He got well marked reaction in all three cows. All the cows were slaughtered, and in two of them there was extensive tuberculosis, but in the third one there was no trace of the disease. Something had been said about the incubative stage. He would like to know whether it were possible to get reaction while the disease was in the incubative stage and when the animal was killed to find no disease. There was a watery appearance in the milk in that case in a portion of the udder. When the udder was examined, he found no signs of tuberculosis and the hardness seemed almost to disappear. He took samples and sent to the medical officer of health at Maidstone, and he reported that all the samples contained tubercle bacilli. It was more on that report than his (Mr. Gulliford's) that the cows were killed. In the case of the third cow the injection of the guinea-pig was still being carried out. It was rather annoying to him that on post-mortem there was no sign of the disease that could be detected by the naked eye examination.

Mr. CAUDWELL said he was very well pleased with the discussion. It was a great expression of confidence as to the tuberculin test, and he believed everyone present was a believer in its almost infallibility. When they tested an animal with a temperature above the normal they could not be satisfied without a subsequent injection. That was why he advocated the double test. He was sorry Mr. Gulliford was disappointed with the cases, in which two were all right and the third failed. He found no lesions after reaction, but he was afraid it was due to Mr. Gulliford's insufficient examination. He had no doubt that there was some slight lesions that he overlooked. Mr. Dixson asked whether the disease was hereditary. He thought generally they could not regard it as hereditary. If it was, it was so in very few cases. He thought that possibly there might be an hereditary tendency. He thought it was hardly ever congenital, but it was possible that calves born of tuberculous parents offered greater susceptibility to disease than the progeny of sound parents, but that was open to question, he supposed. With regard to Mr. Toope's question upon abortion, he believed the frequent appearance of œstrum was due to abortion, and not directly to tubercular disease. Whether it was ever transferred to the bull, he thought the genital organs were very seldom affected: he did not think the bull was often responsible for transferring it to the female. With regard to Professor Wooldridge's suggestion that the right hind quarter of the mammary gland was most frequently diseased, he had not had sufficient experience to answer that question, but he could not understand why one quarter should be affected more than another with tubercular disease. As to reaction at 103°, the temperature of animals often went up to 103° naturally, but this instance quoted he thought was a case in the advanced stage of the disease, which failed to react. He should apply the ophthalmic test, and in all probability a reaction would be obtained.

Mr. GULLIFORD asked what period there should be between the tuberculin test and the ophthalmic test.

Mr. CAUDWELL said he applied them simultaneously. A vote of thanks to Mr. Caudwell followed.

THEO. C. TOOPE, Hon. Sec.

NORTH MIDLAND VETERINARY ASSOCIATION

[NATIONAL V.M.A. NORTHERN BRANCH.]

The quarterly meeting was held at the Grand Hotel, Sheffield, on Tuesday, January 20th, 1914, at 5 p.m.

Present: Messrs. F. L. Somerset (in the Chair), J. S. Lloyd, S. E. Sampson, W. Collinson, W. Brown, T. Bowett, G. J. Furness, H. Thomson, W. Murgatroyd, A. D. Morgan, T. C. Fletcher, M. Robinson, C. Secker Smith, G. Green, E. Marrison, H. P. Lewis, H. R. Laycock, and H. W. Dawes; visitor, Mr. G. Blundell.

It was proposed by Mr. Collinson, seconded by Mr. Sampson, that the minutes of the last quarterly meeting as already published be taken as read.

The HON. SECRETARY then read the report of the Council Meeting held January 13th, 1914, when it was proposed by Mr. Thomson, seconded by Mr. Bowett, that the same be confirmed.

Arising out of the report of the Council Meeting it was mentioned that the Association were now affiliated with the Northern Branch of the National Veterinary Medical Association, and that the affiliation fees for 25 full members had been paid to Prof. Wooldridge, the treasurer. The President reported that in consequence of this it was necessary to appoint two representatives to the Council of the National Association, when it was proposed by Mr. Brown, seconded by Mr. Furness, that the President and the Hon. Secretary be appointed.

THE HUNTING MEMORIAL FUND.

The HON. SECRETARY read a letter which he had received from Prof. Macqueen and Mr. H. Gray with regard to the Hunting Memorial Fund.

The PRESIDENT said "I think this Association should do all that other Veterinary Associations are doing. Personally, I knew very little of William Hunting. I knew a little of him through his writings. No doubt some of you had the benefit of his acquaintance, but I think we shall all agree that the profession has sustained a severe loss by his decease. There is not the slightest doubt that he spent a good deal of his time and money for the benefit of the profession of which he was so great an ornament. I propose that a vote of condolence be sent to his family expressing our deep sympathy with them in their bereavement."

This was seconded by Mr. Fletcher, and carried by all present rising in their places.

The PRESIDENT explained that according to Rule 11 the available funds of the Association would not allow them to contribute at present towards the memorial.

The HON. SECRETARY suggested that the consideration of the matter be postponed for some months, because at the present time the veterinary profession are subscribing to the International Veterinary Association Fund, and it is quite recognised that nothing will be finally determined in connection with the Hunting Fund this year. He said "No doubt some of the members have already subscribed, as I intend to do myself. If anyone would like to send their subscriptions through myself or the Hon. Treasurer we shall be pleased to forward it." The Hon. Secretary suggested that the matter be left over for three months, and this suggestion was agreed to.

Mr. Lloyd nominated, and Mr. Fletcher seconded, Mr. WADSWORTH, veterinary surgeon to the Great Central Railway Co., for election as a member of the North Midland Veterinary Association. Mr. Lloyd reported that Mr. Wadsworth had been invited to attend the Meeting, but had written regretting that he was unable to be present.

Apologies for absence had been received from Messrs. E. G. Johnson and J. H. Gillespie.



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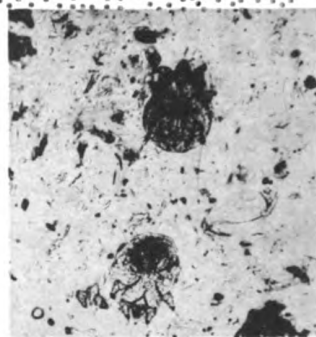
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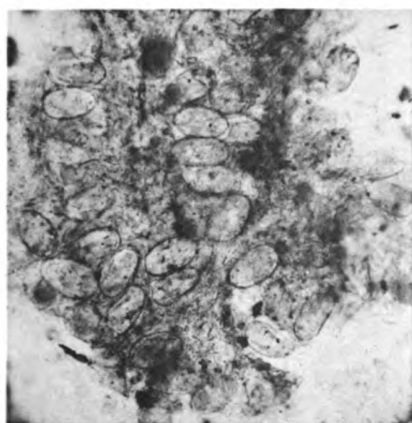
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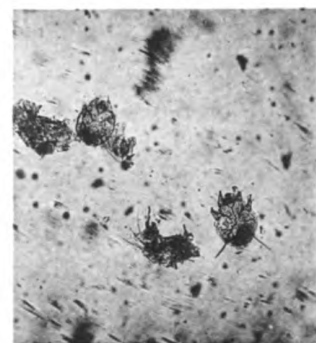
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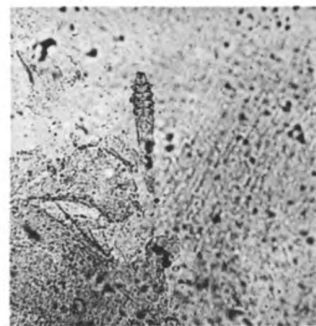
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Messrs. H. W. DAWES, J. A. HODGMAN and G. HOWE were unanimously elected members of the Association.

ANNUAL REPORT, 1913.

In connection with the formation of the Association, thirty-two members of the profession at first agreed to become original members, but, later, three of the gentlemen withdrew, two owing to their having left the district, and one through inability to attend the meetings owing to the day of the week fixed upon clashing with a previous permanent weekly engagement.

Two additional members were elected, making a total for the year 1913 of thirty-one.

Twenty-five members paid their entry fee and first subscription during the year, leaving six in arrear. Three of the latter have since paid.

Three other gentlemen have been nominated, and will come up for election at the first meeting in 1914.

SYLLABUS FOR 1914.

JANUARY MEETING. Address by the President. Paper on "Colic—Its treatment," by W. Brown, M.R.C.V.S., Worksop.

APRIL MEETING. Paper on "Veterinary Inspection in relation to Public Health," by J. W. Brittlebank, M.R.C.V.S., D.V.S.M., Health Department, Manchester.

JULY MEETING. Demonstration on "The Lymphatic System in the Ox and Pig," by J. S. Lloyd, F.R.C.V.S., D.V.S.M., Chief Veterinary Inspector. Town Hall, Sheffield. An exhibition of humane slaughtering of animals will probably also be arranged.

OCTOBER MEETING. A paper entitled "Some remarks concerning Entozoa of the Horse," by A. W. Noël Pillers, F.R.C.V.S., Veterinary Department, Municipal Buildings, Liverpool.

The HON. TREASURER reported on the balance sheet for the year 1913, the balance in the bank being £19 2s. 8d.

Mr. FLETCHER proposed, and Mr. Furness seconded, that the balance sheet up to Dec. 31st, 1913, as presented by the Hon. Treasurer, be accepted.

Milk Sterilisation by Electricity.

For the past two years experiments have been carried on in the University of Liverpool by Professors J. M. Beattie and F. C. Lewis with a view to utilising electricity in the sterilisation of milk. The results of these researches have now been published.

One hundred and twenty experiments on a continuous stream of milk were made, and the invariable result was complete destruction of all colon and allied bacilli, and an enormous reduction in the total number of bacteria of all kinds. To the comparatively insignificant number of organisms left alive the experimenters attached no importance, and even those could have been destroyed by further treatment. Incubation experiments on large samples confirmed the Agar-plate indications, and chemical analyses by the Liverpool City Analyst proved the milk to be unaltered in constitution. The acidity of the sterilised milk remained practically constant for twenty-four hours after treatment, whereas the acidity of untreated samples rapidly rose. The taste of the milk was not altered, the fresh "bouquet" being as perfectly discernible after as before treatment, and expert dairymen could not detect the difference. Several experiments were made with milk naturally and artificially infected with tubercle bacilli, and in no case did the animals inoculated with the treated tubercular milk show the slightest sign of tuberculosis upon post-mortem examination six weeks after inoculation.

No details are published of the technique of the process, nor of its cost. The only information of this

kind given is that a high tension electrical current is used, and that the milk is exposed to the treatment for but a very short time. The experimenters say, in summing up their report, that the new system of sterilisation shows that not only can the ordinary milk-souring bacteria and bacteria of similar type, including in many cases spores also, be killed, but that, in addition, evidence has been adduced that both natural and artificial contamination with tubercle bacilli can be rendered harmless.—*The Hospital*.

Amendment of the Tuberculosis Order.

Lord Crewe, as President of the Cheshire Milk Producers' Association, occupied the chair on Monday last at an agricultural conference at Crewe. Mr. Walter Runciman, President of the Board of Agriculture, was present, and in the course of a speech said: With regard to the Tuberculosis Order, he had observed during the last eight or nine months that local authorities had practically never availed themselves of Section 20 of the Act of 1894, which allowed the local authority to sell the animals, and if the amount of money raised in salvage in that way exceeded the amount which had been allocated for compensation they would pay to the original owner the whole salvage money and not limit payment to the compensation.

Experience of the working of the order had shown that the two valuations provided did not work well, and they would have to get rid of what had been a cause of loss to a good many cow owners in England and Wales. Mr. Runciman indicated that delay in inspection and valuation would also be dealt with in an amending order, and hinted that provision might be made for a cow to be killed after 72 hours and compensation paid. In conclusion, he said the Treasury were prepared to allocate £60,000 per annum for compensation and a vote was taken for £40,000, but they had spent only £5,000, and now they must ask that the wording of the Order should be relaxed in order to come a little nearer to the Treasury anticipations of the cost.

Speaking at a dinner in the evening, Mr. Runciman referred to the healthy state of the flocks and herds in this country, and said he had been considering a scheme which he hoped to put before the Development Commission for strengthening the veterinary profession. It was absolutely necessary that greater assistance should be given from national funds to the education of veterinary surgeons, and he wished to see a profession in England on which we could rely for doing that research work in regard to animals which distinguished scientists had been doing for human beings. If those responsible for our national finance could realise how the stamping out of a single disease could add millions to our national wealth they would be more generous in the grants they gave for the conduct of the most valuable branch of the agricultural staff.

The Oldest Veterinary Surgeon in England.

In several northern papers during the past week a photograph of Mr. Henry Pulman, a registered "Existing Practitioner," of Nelson, Lancs., has been published under the above heading, accompanied by the statement that he "has received intimation from the Secretary of the Royal College of Veterinary Surgeons that he is the oldest Registered Veterinary Surgeon in the country."

On inquiry at the offices of the Royal College of Veterinary Surgeons, we learn that the statement is incorrect in two particulars: (1) That no such intimation has been sent from the College, and (2) that Mr. Henry Pulman is not the oldest Registered Veterinary Surgeon.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.				Anthrax.		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
				Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.		Out-breaks	Slaught-tered.*
Gr. BRITAIN.														
Week ended Jan. 24				15	16			1	2	101	190	25	44	344
Corresponding week in	{	1913	...	12	13			2	8	91	227	7	39	382
		1912	...	26	27			1	3	139	253	13	62	780
		1911	...	28	36			5	13			28	32	285
Total for 4 weeks, 1914 ...				77	81			7	24	332	648	58	180	1504
Corresponding period in	{	1913	...	50	61			13	59	347	837	45	146	2002
		1912	...	92	102			12	31	648	1791	63	229	2540
		1911	...	85	96			18	63			123	141	1523

(a) Confirmed. (b) Reported by Local Authorities.
Board of Agriculture and Fisheries, Jan. 27, 1914

† Counties affected, animals attacked: London 2.

IRELAND. Week ended Jan. 24		...	...	...	...	...	...	Outbreaks 10	45	4	44
Corresponding Week in	{	1913 ...	...	...	...	...	...	3	32	6	14
		1912 ...	...	...	...	...	...	4	24	4	11
		1911 ...	...	...	...	...	...	1	27	5	48
Total for 4 weeks, 1914		...	...	...	...	...	...	14	85	10	74
Corresponding period in	{	1913 ...	...	...	...	...	...	37	77	24	99
		1912 ...	1	1	...	...	...	8	86	11	146
		1911 ...	1	1	...	...	...	8	96	17	281

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Jan. 27, 1914

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Successful Pony Breeding.

In *The Shetland Pony** a very interesting portion is that devoted to the Modern Pony, recounting the work in fixing a type accomplished by Lord Londonderry, with the help of Mr. Robert Brydon and the late Mr. Meiklejohn on the island of Bressay. By selection and inbreeding, the result, as the authors phrase it, was "a breed improvement without a parallel as the result of thirty years' breeding and management." The remarkable thing about this improvement was not only that it was due to one stud, but mainly to a single animal in it, viz., to old Jack (16), the sire or grandsire of almost all the stallions used. Apart from his predominance in the stud, the winnings of the Jack strain constitute a unique record in the showyard. At the last twelve shows of the Highland and Agricultural Society, since the stud was broken up in 1899, out of 116 first and second prizes awarded, no fewer than 114 were gained by the progeny of sires actually in use in the Londonderry stud—a remarkable demonstration, as the authors put it, of the influence of a single stud and a single horse upon the breed. The section on Management gives an amount of valuable information on the system to follow in order to obtain the best results, and lays emphasis on the necessity of breeders having a clear ideal in view, and an "aim independent of the changes of fashion and the varying fortunes of the showyard." The small size was fixed and exaggerated some years prior to 1845, by the crofters exporting their stoutest stallions, while, curiously enough, the scarcity of really good stallions is the chief impediment to-day to the improvement of the Shetland pony in his native home.—*North British Agriculturist*.

*By Charles and Anne Douglas. Wm. Blackwood & Sons, Edinburgh and London. 10s. 6d.

Hunting Memorial Fund.

Subscriptions received up to 7 p.m., Jan. 28th, 1914

	£	s.	d.
Amount previously acknowledged	172	5	6
Mr. W. Kennedy, Nairobi, British E. Africa	1	1	0
Hugh Begg (F), Hamilton, Lanark	1	1	0
Capt. Wm. A. Jelbart, A.V.C., Maymyo, Burma	1	0	0
Mr. Stafford Jackson, Liverpool	1	1	0
R. L. Phillips (F), Loughborough	1	1	0
A. Inglis MacCallum, J.P., Edinburgh	1	1	0
S. H. Nye (F), Bow Road, E.	1	1	0
Messrs. T. A. Reed & Co. Chancery Lane, (Official typists, etc. to R.C.V.S.)	1	1	0
Mr. A. Cornish-Bowden, Beckenham	1	1	0
Maj. A. J. Williams, A.V.C., Station Vety. Hospital, Trimulghery, India	1	1	0
Capt. W. E. Schofield, The Club, Peshawar	1	1	0
Capt. E. C. Russell, A.V.C., Quetta Club, India	1	1	0
Col. E. H. Hazelton, Simla, India.	1	1	0
Capt. Greenfield, A.V.C., Hong Kong, China	10	0	0
Dr. G. E. Cartwright-Wood, Belmont Laboratories, Sutton	5	5	0
Mr. W. E. Ison (F), Atherstone	1	1	0
W. R. Davis, The Poplars, Enfield	1	1	0
W. H. Bloye (F), Ebrington St., Plymouth	2	2	0

£195 16 6

HENRY GRAY, Hon. Sec. & Treas.

23 Upper Phillimore Place, London, W.

Cheques endorsed "Hunting Memorial Fund" and crossed "The London, City and Midland Bank, Ltd.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, Jan. 23.

REGULAR FORCES. ARMY VETERINARY CORPS.

Lieut. A. B. Bowhay to be Capt. Dated Oct. 20, 1913.

Jan. 27.

SPECIAL RESERVE OF OFFICERS.
ARMY VETERINARY CORPS.

Lieut. (on probation) M. R. Lawson is confirmed in his rank.

Maj. A. G. Todd, Commandant of the Army Veterinary School, Aldershot, is to be appointed Assistant Director-General of the Army Veterinary Service.

OBITUARY

T. GIFFORD PALGRAVE, M.R.C.V.S.

Graduated, Glas : Dec., 1897.

Mr. Palgrave's death is reported from Auckland, New Zealand, on 8th December, 1913.

SIMPSON.—At Fulbrooke, Ruthin, North Wales, on Jan. 15th, Jessie Ellen, wife of T. J. Simpson, M.R.C.V.S., and daughter of Ex-Councillor Thomas Tait, of Edinburgh.

Personal.

PETTY—STEVENS.—On January 20th, at King's Road Baptist Church, Reading, by the Rev. Gordon Fairbairn, William Edward Petty, M.R.C.V.S., of Southsea, son of Benj. Petty, of Leeds and Reading, to Ellen Mary, youngest daughter of the late C. R. Stevens, of Reading, and Mrs. Stevens.

Owing to additional duties imposed in connection with the examination of cattle under the Tuberculosis Order of 1913, and the general inspection of all cattle in the City of Liverpool, the City Council have increased the salary of the Veterinary Superintendent, Mr. T. Eaton-Jones, F.R.C.V.S., from £600 to £700 with house, etc., as before. An amendment to refer the recommendation back was rejected, and the increase voted almost unanimously, more than one member testifying to the onerous and efficient work which Mr. Jones had carried out.

Mr. ALEX. DOUGLAS, M.R.C.V.S., D.V.S.M., Kilmarnock, has been appointed Veterinary Officer to the Ayr County Council. This is a new appointment, and has been rendered necessary by the increased amount of work under the Diseases of Animals Acts. There were twenty applications for the post. The salary is £300 per annum.

As a result of the accident which befell Mr. R. N. Lewis, M.R.C.V.S., Veterinary Officer to the Dumfries County Council, on August 27th, when his motor cycle collided with a motor car, his right leg has been amputated above the knee at a nursing home in Newcastle. He is now making satisfactory progress.—*Ayrshire Times*.

Mr. ARTHUR LLOYD, M.R.C.V.S., has been appointed by the City of London Corporation as an additional meat inspector at the Metropolitan Cattle Market at a salary of £150 per annum, rising to £200.

The annual retaining fee of Mr. Harry Peele, Chief Veterinary Officer under the Durham County Council has been increased from £20 to £50.

AN "INSURANCE" QUESTION.

Sir,

I should be glad of some information through your columns as to our legal liability in the case of a *locum tenens* should any such have the misfortune to meet with an accident whilst acting for us.—Yours faithfully,
Bideford, Jan. 17. Wm. Ascott.

Veterinary Societies—Addresses.

BORDER COUNTIES V.M.S.

Pres: Mr. J. W. Hewson, M.R.C.V.S., Wigton

Hon. Sec. (pro tem.): Mr. F. W. Garnett, M.R.C.V.S.,

Dalegarth, Windermere

Meetings, Second Friday of Feb., June, and October

GLASGOW V.M.S.

Pres. Principal McCall.

Hon. Sec. Mr. J. Gibson, 16 Overdale Gdns, Langside, Glas.

ROYAL VETERINARY COLLEGE V.M.A.

Pres: Prof. E. Brayley Reynolds.

Hon. Sec: Mr. B. Gorton, M.R.C.V.S. Assist. Mr. E. E. Jelbart

ASSOCIATION OF VETERINARY OFFICERS OF HEALTH

Pres: Mr. T. Douglas, M.R.C.V.S., Kilmarnock

Hon. Sec. & Treas. Mr. A. M. Trotter, M.R.C.V.S.,

Moore Street, Abattoir, Glasgow

NATIONAL ASSOCIATION OF VETERINARY INSPECTORS

Pres: Mr. J. Abson, F.R.C.V.S., Sheffield

Hon. Sec: Mr. Trevor Spencer, M.R.C.V.S., Kettering

MUNSTER VETERINARY INSPECTORS' ASSOCIATION

Pres: Mr. D. M. Barry, M.R.C.V.S., Mallow

Hon. Sec: Mrs. T. I. Alexander, M.R.C.V.S., Kinsall

NATIONAL VETERINARY BENEVOLENT & MUTUAL
DEFENCE SOCIETY.

Pres: Mr. W. A. Taylor, F.R.C.V.S., Brick-st, Manchester

Hon. Sec: Mr. G. H. Locke, M.R.C.V.S.

Grosvenor Street, Oxford-st., Manchester

Treas: Mr. J. B. Wolstenholme, F.R.C.V.S.,

Quay-street, Manchester

VICTORIA VETERINARY BENEVOLENT FUND.

Pres. Mr. R. C. Trigger, J.P., Newcastle, Staffs.

Hon. Sec. & Treas: Mr. W. Shipley, F.R.C.V.S.

South Town, Great Yarmouth

COLONIAL SOCIETIES (continued next page)

VETERINARY ASSOCIATION OF NEW SOUTH WALES

Pres: Mr. S. T. D. Symons, M.R.C.V.S., Chief Insp. of Stock

V. Pres: Maj. A. P. Gribben, F.V.O., M.R.C.V.S.

Hon. Sec. & Treas: Mr. Max Henry, M.R.C.V.S., B.V.Sc. (Syd).

56 Bridge Street, Sydney.

BRITISH COLUMBIA V.M.A.

Pres: Dr. Gibbons, M.R.C.V.S., Vancouver,

Hon. Pres: Dr. Hamilton, M.R.C.V.S., Victoria.

Sec., Treas., Registrar. Dr. T. Jagger, V.S., Vancouver.

ASSOCIATION MÉDICALE VÉTÉRINAIRE FRANÇAISE "LAVAL"

Sec: Mr. J. P. A. Haude, Montreal

PROVINCE OF QUEBEC V.M.A.

Hon. Sec. Mr. Gustave Boyer, Rigaud, P. 2

VETERINARY ASSOCIATION OF ALBERTA

Hon. Sec. Mr. C. H. H. Sweetapple,

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ONTARIO V.A.

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TRANSVAAL V.M.A.

Pres: Mr. C. E. Gray, F.V.S., Box 134, Pretoria.

Hon. Sec: Mr. P. Conacher, v.s., Box 877, Johannesburg

NATIONAL VETERINARY ASSOCIATION*Past President:* Mr. W. Woods, F.R.C.V.S., Wigan*Sec:**Assist. Sec:* Mr. W. L. Harrison, F.R.C.V.S.,

11 Anchor Terrace, Southwark Bridge, S.E.

Treas: Prof. G. H. Wooldridge, F.R.C.V.S.,

Ryl. Vet. Coll., Camden Town N.W.

Northern Branch:*Pres.* W. A. Taylor, (F) Brick Street, Manchester*Hon. Sec.* A. W. Noël Pillers, (F)

74 Smithdown Lane, Liverpool

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Pres: Mr. G. H. Locke, M.R.C.V.S.,

Grosvenor-street, Manchester

Hon. Sec. Mr. J. W. Brittlebank, M.R.C.V.S.,

Town Hall, Manchester

Hon. Treas: Mr. E. H. Stent, M.R.C.V.S., Preston-st, Hulme*Meetings,* 1st Thursday in April, June, Sept., & Dec.

LIVERPOOL UNIVERSITY V.M.S.

Pres: Mr. J. P. Heyes, F.R.C.V.S., Wigan*Hon. Sec:* A. Walker, M.R.C.V.S., Mill Lane, West Derby*Pathological Sec:* Mr. D. C. Matheson, F.R.C.V.S.*Meetings,* May, July, October, January.

MIDLAND COUNTIES V.M.A.

Pres: Mr. J. Martin, M.R.C.V.S., Wellington, Salop*Hon. Sec:* Mr. H. J. Dawes, F.R.C.V.S.,

Camden House, High-st., West Bromwich

Meetings, Second Tuesday, Wednesday, Thursday, and Friday alternately in Feb., May, Aug. and Nov.

NORTH OF ENGLAND V.M.A.

*Pres:**Hon. Sec:* T. T. Jack, M.R.C.V.S., 3 Elmwood Ter, Sunderland*Meetings,* Third Friday, Feb., May, Aug. and Nov.

NORTH MIDLAND VETERINARY ASSOCIATION

Pres: Mr. F. L. Somerset, M.R.C.V.S., Chesterfield*Hon. Sec:* Mr. J. S. Lloyd, F.R.C.V.S., Sheffield

NORTH WALES V.M.A.

Pres: Mr. Hugh Williams, M.R.C.V.S., Ty Croes*Hon. Sec.* Mr. L. W. Wynn Lloyd, M.R.C.V.S., Carnarvon*Meetings,* First Tuesday, March and September

SOUTH DURHAM AND NORTH YORKSHIRE V.M.A.

Pres: Mr. J. M. Walker, F.R.C.V.S., Hartlepool*Hon. Sec. & Treas:* Mr. J. H. Taylor, F.R.C.V.S.,

Grange Road, Darlington

Meetings, First Friday, Mar., June, Sept. and Dec.

YORKSHIRE VET. ASSOCIATION

Pres: Mr. J. Abson, F.R.C.V.S., Norfolk Street, Sheffield*Hon. Sec:* Mr. J. Clarkson, M.R.C.V.S., Garforth, nr. Leeds*Hon. Treas:* Mr. A. McCarmick, M.R.C.V.S.,

Kirkstall-road, Leeds

Southern Branch:*Pres.* Sir Stewart Stockman, 4 Whitehall Place, S.W.*Sec.* T. C. Toope, 34 High Street, Dover

CENTRAL V.S.

Pres. Prof. G. H. Wooldridge, R.V. Coll., Camden Town.*Hon. Sec:* Mr. H. A. MacCormack, M.R.C.V.S.,

122 St. George's Avenue, Tufnell Park, N.

Meetings, First Thursday in each month, except August and September, 10 Red Lion Square, Holborn, at 7 p.m.

EASTERN COUNTIES V.M.A.

Pres. Mr. F. B. O. Taylor, M.R.C.V.S., Weston Longueville,*Hon. Sec. & Treas:* Mr. Sidney Smith, Junr., M.R.C.V.S.,

87 High Street, Lowestoft

Meetings, Second Tuesday, Feb., July and Sept.

LINCOLNSHIRE AND DISTRICT V.M.S.

Pres. Mr. C. W. Townsend, F.R.C.V.S.,

Long Stanton, Cambridge

Hon. Sec. & Treas: Mr. Tom Hicks, M.R.C.V.S.,

Boston Road, Sleaford

Meetings, Second Thursday Feb., June, and October**ROYAL COUNTIES V.M.A.***Pres:* Mr. J. C. Coleman, M.R.C.V.S., Swindon*Hon. Sec. & Treas:* Mr. G. P. Male, M.R.C.V.S., Reading*Meetings,* Last Friday, Jan., April, July and Nov.**SOUTHERN COUNTIES V.S.***Pres:* Mr. G. H. Livesey, M.R.C.V.S., Hove, Sussex*Hon. Sec:* Mr. A. H. Archer, M.R.C.V.S., Southsea, Portsmouth*Hon. Treas:* Mr. E. W. Baker, M.R.C.V.S., Wimborne*Meetings,* Last Thursday, Mar., June and Sept.**SOUTH EASTERN V.A.***Pres.* Mr. E. Lyne Dixon, M.R.C.V.S., Margate*Hon. Sec. & Treas.* Mr. Theo. C. Toope, M.R.C.V.S.,

84 High Street, Dover

*Meeting,***WESTERN COUNTIES V.M.A.***Pres:* Mr. C. E. Perry, F.R.C.V.S., Staple Hill, Bristol.*Hon. Sec.* Mr. W. Ascott, M.R.C.V.S., Bideford*Hon. Treas:* Mr. P. G. Bond, M.R.C.V.S., Plymouth*Meetings,* Third Thursday, March, July and November**Irish Branch:***Pres.* Mr. W. Watson, Municipal Buildings, Dublin*Sec.* Mr. P. D. Reavy, Leafeld, Bundoran, Co. Donegal**CENTRAL V.A. OF IRELAND.***Pres:* Mr. B. P. J. Mahony, M.R.C.V.S., Maryborough*Hon. Sec.* Mr. E. O. Winter, F.R.C.V.S., Queen-st., Limerick*Treas:* Mr. J. F. Healy, M.R.C.V.S., Middleton**CONNAUGHT V.M.A.***Pres.* Mr. D. Hamilton, M.R.C.V.S., Ballina*Hon. Sec. & Treas.* Mr. A. J. Moffett, M.R.C.V.S., Galway**VET. MED. ASSN. OF IRELAND.***Pres:* Mr. P. J. Howard, M.R.C.V.S., Ennis*Hon. Sec:* J. J. O'Connor, M.R.C.V.S., R.V. Coll., Dublin*Hon. Treas:* Prof. J. F. Craig, M.A., M.R.C.V.S.,

R.V. Coll., Dublin

NORTH OF IRELAND V.M.A.*Pres:* Mr. J. A. Jordan, M.R.C.V.S., Belfast*Hon. Sec:* Mr. J. Ewing Johnston, M.R.C.V.S., Belfast*Hon. Treas:***Scottish Branch:***Pres.* Dr. O. Charnock Bradley, } Ryl. (Dick) V et.*Hon. Sec.* Prof. A. Gofton, } Coll: Edinburgh**NORTH OF SCOTLAND V.M.S.***Pres:* Mr. W. Marshall, M.R.C.V.S., Aberdeen*Hon. Sec. & Treas:* Mr. G. Howie, M.R.C.V.S., Alford, Aberdeen*Meetings,* Last Saturday in January and August**ROYAL SCOTTISH V.S.***Pres:* Mr. Reid, M.R.C.V.S., Auchtermuchty.**SCOTTISH METROPOLITAN V.M.S.***Pres:* Mr. J. Riddoch, M.R.C.V.S., Edinburgh*Hon. Sec. & Treas:* Mr. Jas. Henderson, M.R.C.V.S.,

Public Health Dept., City Chambers, Edinburgh

WEST OF SCOTLAND V.M.A.*Pres:* Prof. John R. McCall, M.R.C.V.S., Vety. Coll. Glasgow*Hon. Sec:* Mr. J. F. Macintyre, M.R.C.V.S.,

19 Bank Street, Hillhead, Glasgow

Hon. Treas: Mr. Geo. W. Weir, M.R.C.V.S.,

88 Crookston Street, Glasgow

Meetings, Second Wednesday, May, Oct. and January.**COLONIAL SOCIETIES: (see preceding page)****CAPE OF GOOD HOPE V.M.S.***Pres.* Mr. J. D. Borthwick, M.R.C.V.S., Cape Town*Hon. Sec. & Treas.* Mr. R. W. Paine, F.R.C.V.S.**CENTRAL CANADA V.A.***Hon. Sec:* Mr. A. E. James, Ottawa**VET. ASSN. OF MANITOBA.***Pres:* Dr. W. R. Taylor, Portage la Prairie*Hon. Sec. & Treas:* Mr. Wm. Hilton, Winnipeg**NATAL VETERINARY MEDICAL ASSOCIATION.***Pres.* Mr. F. J. Carless, M.R.C.V.S., Mooi River*Hon. Sec. & Treas.* Mr. A. W. Shilston,

Vety. Research Laboratory, Pietermaritzburg

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1335.

FEBRUARY 7, 1914.

VOL. XXVI.

FOOT-AND-MOUTH DISEASE IN IRELAND.

For nearly thirty years—from 1884 to 1912—Ireland was free from foot-and-mouth disease, although throughout all that time the disease was more or less prevalent upon the Continent, from which it not very rarely spread to Great Britain. In 1912 Ireland's long period of immunity came to an end; and many outbreaks occurred in various parts of the country, some of them apparently unconnected with the initial one near Dublin. The last occurred early in November, 1912—not very much more than a year ago—and last week the disease reappeared in Kildare, which was one of the counties affected in the 1912 epidemic. These historical considerations suggest that it is possible that Ireland's increased liability to infection is due to some import which either is altogether a new one, or is becoming a more frequent one than before.

Meanwhile no further outbreaks are announced; and the prompt action of the Irish executive will almost certainly succeed in preventing the immediate spread of the disease from the one district.

THE VICTORIA VETERINARY BENEVOLENT FUND.

This Fund has recently held its quarterly meeting, at which it was announced that last year's expenditure had exceeded the income by about £20. This is a disappointment on the face of it, and becomes more so when we examine the financial details. Last year £255 was received in subscriptions, and even if all this had come from individual members it would represent only about eighteenth-pence for every member upon the Register. As some of it comes from local Societies it actually represents a still smaller sum per member. Although the profession is giving a little more to benevolence than it once did, much more must still be done before the finances of our benevolent society can be called creditable to us. The number of people who are forced to seek relief from the Victoria Fund is not very large after all, and it ought to be possible to succeed in the Secretary's aim of granting 10s. weekly in "practically every case." It would certainly be possible if comparatively a few more members realised the duty of becoming annual subscribers. There are a few objects which every M.R.C.V.S. should feel bound to support if he can—so very few that almost all of us could spare a little every year to each. The Victoria Fund is one of them.

A SECOND ATTACK OF TETANUS.

I am tempted to record this case as I have never before heard of a horse having a second attack of tetanus.

The subject is a black well-bred hunter gelding, nine years old.

I was called to see him on Dec. 31st, 1912, he had been hunted three days before. He was showing well marked symptoms of tetanus; the muscles as hard as a board, especially those of the neck; the jaws could be opened about an inch.

He was put into slings, and got a daily injection of tetanin for seven days; during this time he showed no improvement, in fact the third and fourth day he went back, refusing all nourishment, which consisted of milk and sloppy bran, with crushed oats.

On the eighth day there was a slight improvement, which was maintained, and on Jan. 17th he was taken out of slings for a few minutes, and walked round the box. This was increased daily, and on the 24th he was sent to exercise. He made an uninterrupted recovery, being afterwards hunted to the end of the season, when he was sold to another client of mine in the neighbourhood.

I could find no wound to account for the entrance of the microbe, and he had not been lame.

On Jan. 6th of this year I was again called to see him. The history was that until a week previously he had been treated by the blacksmith for a festered corn; he was hunted on Jan. 3, and was noticed to be not in his usual form. On the 5th he was hacked about six miles and arrived home very stiff, and in a white lather, was given a colic draught, and left for the night.

Again, the symptoms were unmistakable, but luckily the jaws were not quite closed, and he was able to suck nourishment. He was put into slings, and again injected with tetanin for seven days. This time I noticed no improvement until the 16th, when the jaws were distinctly more relaxed. He was taken out of slings on the 24th, for a little movement, which has been daily increased. I saw him being exercised to-day, when he moved as freely as usual, and was full of life.

In each case the horse was under ideal conditions in a roomy loose box, with darkened windows, and an attendant sleeping in the stable for the first two weeks; but although a high couraged animal the slings did not seem to irritate him in the least, and he rested in them well.

INCOMPLETE DELIVERY OF A COW.

I received a message from a farmer that he had a cow calving before her time, that the water bag had bursted four days before, and was hanging down behind, and he thought the calf must have been dead about a week.

I went prepared for a smelly operation. Some of the afterbirth was hanging from the vulva, and on inserting my hand into the vagina, I found lying there a four months foetus enclosed in the membranes. The os was almost closed, and I could scarcely insert one finger. The cow was a three-year-old shorthorn in good condition, and I cannot account for the non-delivery.

ERNEST MORGAN, M.R.C.V.S.

Faversham.

ACUTE PARENCHYMATOUS MAMMITIS
OF CATTLE.

This disease in many instances is one of the most troublesome affections veterinarians are called upon to treat, frequently resulting in undesirable sequelæ.

Its treatment by fomentations and the application of medicaments to the affected site, with or without friction, have not in my hands proved a great success, and in several instances cases have run a prolonged course, resulting in great economic loss being sustained by the owner and the value of the animal permanently reduced.

I have now discarded that treatment in favour of the application of thermofuge or antiphlogistine to the affected site, and in suitable cases employing the hyperæmic treatment of Bier in addition. The cases so treated, characterised by a condition of hyperthermia, loss of appetite, and a tense, hot and painful quarter or udder, with a flaky condition of the milk, have responded to the treatment within three to five days, resulting in the animal giving a normal flow of milk, normal both as regards quantity and quality.

The procedure is to cut out one or two thicknesses of cotton wool sufficiently large to surround the udder in which holes are made to allow the teats to hang through. A strong piece of calico is fashioned in the same manner, and enough tapes attached to keep the sling so made in position when applied.

The antiphlogistine or thermofuge is heated until it attains the desired warmth, when it is thickly smeared on the affected quarter or quarters, the cotton wool is then applied, and the sling placed in position. This is left on for twenty-four hours or longer; if considered necessary another smearing may be given.

In cattle which have pendulous udders I have found it possible to adopt Bier's hyperæmic treatment by placing at the base of the udder a broad adjustable elastic garter, after the style of the top part of a sock suspender, of such a tightness that will retard the flow of the venous blood from the udder but not interfere with the arterial circulation thereto. This bandage is allowed to remain on for six hours, when it should be removed, left off for

an equal period, and re-applied by the attendant for a shorter interval of time.

During the course of the disease I advocate withdrawing the discharge from the udder at short intervals, and administering laxatives.

R. P. JONES, M.R.C.V.S.,

Government Veterinary Surgeon,
East London, Cape Province.

HYDROCEPHALUS IN A BOVINE FŒTUS.

The following notes place on record a remarkable abnormal condition of the head of an unborn calf. The specimen was brought to me from the dairy farm at which I treated the outbreak of epizootic abortion reported in *The Veterinary Record* of October 4th, 1913.

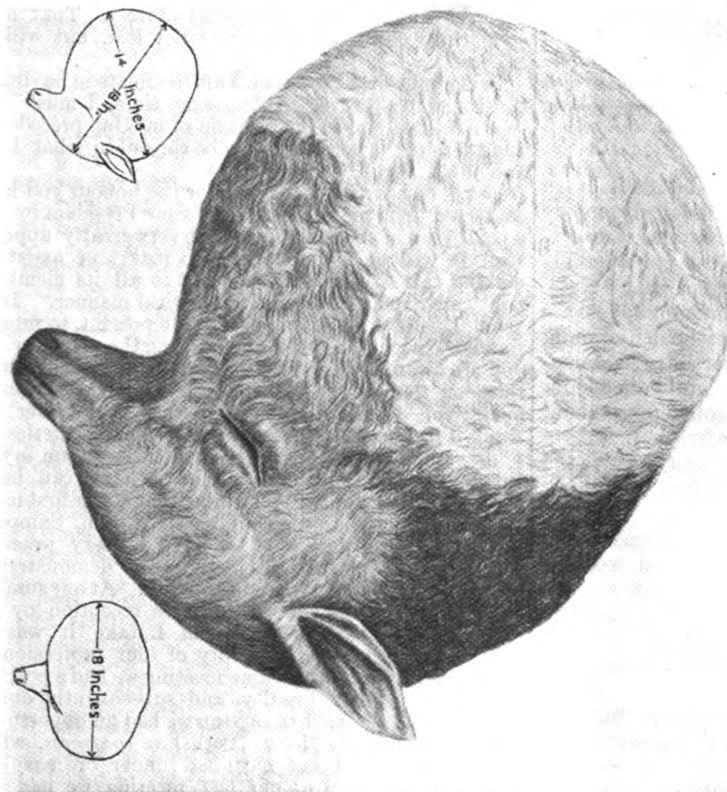
The following particulars are as complete as can be made without dissecting the head, a proceeding which would destroy its value as a specimen. The head alone was brought to me in a sack, and had an incision more than six inches long in its most prominent part, which, I am told, was a cut with a butcher's knife made to see what the head contained.

The owner of the dairy farm related that the cow was of a very common breed, and the foetus was the second calf, the first calf was healthy and was born without assistance. The cow was irrigated with the others in the treatment pursued for stamping out the outbreak of epizootic abortion, and was one of those whose genital organs admitted the full length of the pipe.

Symptoms of pregnancy were noticed about the seventh month, but after a few days they subsided, when the hair appeared to be rough, and the animal out of condition, with a faint trace of the pelvis becoming smaller. After a few weeks the cow was noticed to be very swollen in the flanks, in fact, abnormally swollen; the vulva was contracted and the anus drawn in. This puzzled the owner very much, as the cow had gone beyond her time to calve. The cow became so large that the opinion was formed that she must have twins. The animal was kept under observation in a small paddock near the house in case assistance would be required. While under observation the cow did not seem to suffer any pain, and partook of her food in the usual manner.

The owner, on going one morning to see the animal, was surprised to find her dead. Death seemed to have taken place without a struggle. He at once decided to remove the hide and cut up the carcase to ascertain the cause of the phenomenon, and then burn the remains; burning is resorted to in all cases of death on the farm as a means of preventing the spread of contagious diseases. After removing the skin, an opening was made in the flank, as that region was very much swollen, and he was surprised to find a large quantity of clear fluid in the uterus, estimated to be not less than fourteen gallons. When he opened up the flank sufficiently to see the calf, he was struck with the size of its head. It was a male, and in a

natural position. When he had taken the calf out he ran the knife across its head and found a clear fluid exactly resembling that in the uterus. The calf, with the exception of the head, appeared to be normal, and did not seem larger than one dropped at full term. This cow was cut up to facilitate its burning, the carcase of the calf being thrown upon the heap, dry wood piled on top, and the whole set fire to.



The fire had been burning for some time when the neighbour who brought me the head, came over to see the cow, and was so much interested in the strange appearance of the head of the calf, which the fire had not yet reached, that he took up an axe and severed the head from the body just behind the ears. When the farmer was asked why he did not keep the cow and the calf for me to examine, he replied, "I was disgusted with my losses, and thought that some new disease was going to break out in my farm."

The following is a description of the head, with measurements: The colour of the hair is red on the lower part and white on the upper part, and the hair is much longer and stronger than is usually seen on a calf at full term.

The shape in that portion of the head which is abnormal approaches a spheroid, the largest surface being the top. The bones in the abnormal portion appear to be one-eighth of an inch thick, and they terminate with the red-coloured hair (as indicated by the dark shading in the accompanying illustration), where they are very thin and more like carti-

lage, with an undulating edge—that is, high in the front, running up to a point, with a base 4 in. wide opposite the nose, then for 5 in. running upwards to the highest point at the sides.

There is a V-shaped cleft at the back, with a measurement of—top $5\frac{1}{2}$ in., sides $5\frac{3}{4}$ in. Diameter across the head from front to back is 12 in., and from side to side at widest part 15 in.

The following are the measurements of the stuffed specimen, as shown in the plate—from bottom of lower jaw to top of head, taken at an angle from upright position, 18 in.; from front to back, 14 in.; from side to side at widest, 18 in.

The most curious features are the forehead, with its rough, curly hair appearing to be at the back of the head, and the ears which, although they look forward, are upside down. A dissection is the only means of telling if the bones at the back which look like the forehead are really the bones of the forehead or not. The front teeth are very large for a foetus, the middle teeth measuring across the upper surface half-an-inch. The mouth is complete, with teeth, tongue, palate, and pharynx normal; the oesophagus and trachea are to be seen in a normal position. While the eyelids with long eyelashes are perfect, the eyes are rudimentary and sunk below the bottom eyelids. The measurement across the eyes from the anterior edges is 8 in. The ears large and long, measuring

$2\frac{1}{2}$ in. broad, and 4 in. long from base to tip. Measurement from tip of nose to base of ear 9 in.

On viewing the inside of the head, what comes prominently into view is the end of the spinal cord, which has the appearance of a number of fine woollen threads of irregular lengths, some 3 in. long, others not more than half-an-inch. Dura mater and pia mater intact; no trace of brain to be seen. The membrane lining the cavity is perfectly smooth, and of a dull colour.

No trace of the optic nerves can be seen; in fact, the membrane is as smooth as a dried bladder.

The specimen measures from the bottom or floor, at an angle, to the top of the undulating edge of the bones, at the highest part 16 in.; from the lowest part of the V-shaped cleft in the back part of head, 18 in. In giving these measurements it is to be noted that the back part of the head is lower than the bottom jaw.

The following measurements may serve to gauge the capacity of the head. From floor of cavity to top of head, distended, 16 in.; diameter at widest part across the head at the highest point

of the bones, 18 in. Taking the diameter at the part above-mentioned will give a fair average, as the base is smaller than the top; the top part of the head, above the bones, projects forward when it is distended with fluid and holds between 4 and 5 gallons.

J. DESMOND, V.S.

Adelaide, South Australia.

ABSTRACTS FROM FOREIGN JOURNALS

HÆMORRHAGES IN THE CARDIAC VALVES OF YOUNG CALVES.

At Rostock, in the years 1905 and 1906, a large number of calves which had died of calf-dysentery (which at that time was very violent) were examined, and in every case more or less considerable extravasations were found upon the cardiac valves.

It is now known that true hæmorrhages are present upon the cardiac valves of healthy young calves. G. Egge, of Schwaan, has been systematically working to elucidate their significance since 1905. Having charge of an abattoir where about 2500 young calves are killed annually, he has regularly examined the hearts of all, and has found extravasations upon the cardiac valves in almost all.

The extravasations appear in two forms. One consists of sharply-defined tense blood vesicles ranging from the size of a pin's head to that of a pea, from which fluid blood escapes when they are pricked. The other consists of more or less extensive superficial hæmorrhages in the tissue of the valves.

The seat of the hæmorrhages is always the free edge of the auriculo-ventricular valves, where the chordæ tendinæ are attached.

Finding nothing in veterinary literature bearing upon this condition, Egge extended his researches. He took every opportunity of examining the fœtus of cows slaughtered whilst pregnant, and also aborted calves of every age which he encountered in practice. The result was that he found these extravasations could be demonstrated in almost every case. On the other hand, the extravasations had become absorbed in calves which had died or been slaughtered after living about four or five weeks.

Finally, Egge still further extended his investigations, and examined the hearts of foals, young pigs and lambs. In these he could never find any such extravasations.

He therefore concludes that the hæmorrhages above described are *physiological* in calves *in utero* and until about three weeks after birth, and in them alone. They are absent in all other animals. The special cause of the condition is not clear to Egge.—(*Berliner Tier. Woch.*)

W. R. C.

NORTH MIDLAND VETERINARY ASSOCIATION.

[NATIONAL V.M.A. NORTHERN BRANCH.]

Continued from page 496.

PRESIDENTIAL ADDRESS.

F. L. SOMERSET, F.R.C.V.S., Chesterfield.

Gentlemen,—It was intimated to me at the last meeting of your Council that brevity was an admirable and desirable quality in a Presidential address. That hint, so tactfully conveyed to me, was not lost, but will be adhered to.

Being your first President, I am fortunate in having no traditions to observe. At the same time, I must bear in mind that I am in the position of making precedents, and therefore it behoves me to be careful in what I say and how I say it.

I wish to heartily thank you for the honour you have conferred upon me in electing me your President for the second year in succession, which I very greatly appreciate. It will be my endeavour to make, or assist in making, this Association of benefit to all its members, politically, socially, and in a practical manner. It is usual, I believe, on occasions like the present, to refer to the work which has been done during the past year. As you are aware, this Association came into being about the same time as the Tuberculosis Order also became operative. I am not going to discuss that Order. I think it has been discussed by veterinary societies *ad nauseum* during the past three months. I am saying this to illustrate the benefit that societies can be to their members. You will remember that at our first meeting, owing to the kindness of Messrs. Abson, Sampson, and Lewis, we were able to have a very practical demonstration of the best methods of demonstrating the presence of tubercle bacilli in milk. At our summer meeting we had the honour of a civic reception by the Lord Mayor of Sheffield, which I take it was an acknowledgment of the utility of our profession to the community. At the same meeting we had a polished address from Prof. Bradley, and subsequently during the drive and the visit to Buxton we had an opportunity of enjoying a talk with our Yorkshire *confères*, which perhaps we should not have had under ordinary circumstances. Then at our last meeting we had Mr. Sumner, who gave us an address on the politics of our profession, a most useful address, on a subject which may well be copied by other people.

The busy general practitioner too often displays an indifference to and ignorance of professional politics which can only be explained on the assumption that he is convinced that they are of no practical importance to him.

If the Royal College of Veterinary Surgeons obtain powers to levy a yearly contribution to their funds from every member on the Register, I have no doubt that a much keener interest in the doings of Council will be taken than is the case at the present time.

The meetings of associations such as this give to members of Council an opportunity to attend and give an account of their stewardship, to explain what has been done and what it is proposed shall be done, for the benefit and advancement of the profession and to elucidate any point which is not clear to everyone present.

I recommend every veterinary society to set aside at least one of its meetings during the year to be devoted to the consideration of professional politics, to secure the attendance of a member of Council to give an address on the subject and so enable him not only to give that information concerning the doings and proposed doings of Council to which the humblest member

of the profession is entitled, but also to sense the feelings and opinions of the profession on the political programme thus placed before them.

A mandate to proceed with or refrain from the acts proposed would thus be obtained in a far more certain and satisfactory manner than is at present possible. The only means of expressing dissatisfaction at present open to us, are by writing to the professional publications and through the ballot at elections of Council, neither of which, in my opinion, can compare with the plan suggested.

Subsequent to the discussion at the meeting referred to last, two most interesting specimens were exhibited by Messrs. Samson and Green, and I ask that every member who meets with an interesting or unusual case will go to the trouble of observing and noting down as accurately as possible the phenomena exhibited, and, of course, wherever possible, preserving any morbid specimen or microscopic slide which will serve to illustrate and explain the case. There may be men—although I can scarcely imagine it—whose only interest in their professional work is the remuneration they receive for it; I am satisfied that the majority of us take a great and genuine interest in our patients apart from any pecuniary consideration.

I have heard that some men feel a reluctance to describe cases which have puzzled them or to introduce specimens to account for which they are at a loss, because they feel it implies an ignorance of which they are ashamed. They may rest assured that the finest brains in the profession are frequently at a loss to account for phenomena which come under their notice in the practice of their professional duties.

As Professor Bradley pointed out in his address to us, it is the cocksure man, who never admits having made a mistake, who is invariably the most ignorant, and conversely those who, through knowledge and experience, have ascertained their own limitations, the more their attainments entitle them to an authoritative opinion the more modest and diffident they are in giving expression to it.

This, of course, is a phenomenon not peculiar to the veterinary profession, but is to be noticed in every phase of human activity. I have another suggestion to bring before you. It is unusual for a practitioner to call in a colleague for consultation except at the request of the client. I suggest that when he has an unusual or obscure case in hand he should, with the consent of the client, invite other practitioners to see it, not for a fee, of course, but for their information and experience, and in the hope that their combined wisdom may arrive at a solution of the problem.

Now, as to the session before us, I recommend you to consider and, if approved, adopt the suggestion I made in an earlier part of this address. That is, to set aside one of our quarterly meetings for the consideration and discussion of veterinary political matters. As the last quarterly meeting was of this nature, it would be perhaps advisable to ear-mark the last quarterly meeting of this session for that purpose, and to make arrangements with some member of Council to address us on the subject. I do not anticipate that we shall have any difficulty in filling up the syllabus for the remaining dates.

In conclusion, I hope that we shall have a full attendance of members at each meeting, that the papers read before us will prove instructive, and that they will provoke animated and informative discussions.

Again, let me remind you that reports of specimens from interesting cases are especially solicited, as are new instruments, new methods of treatment, and surgical practice; and, in short, anything and everything which is likely to prove of practical interest and assistance to your brother practitioners.

COLIC—ITS TREATMENT.

W. BROWN, M.R.C.V.S., Worksop.

Mr. Chairman and Gentlemen,—Before proceeding with the subject of my paper it is incumbent to thank you for the honour you have conferred upon me, and especially so as it is the first paper submitted by a member. I have no hesitation in asserting that the purpose of my remarks is the hope of providing a discussion from which we all may derive benefit—not that they contain anything either original or advanced.

Colic is an expression used to indicate the presence of abdominal pain, which is dependent for its production on abnormal or inordinate contraction of the visceral musculature.

Abdominal pain has various anatomical points of origin, and its exhibition varies in proportion to the intensity of the irritation in operation; it may arise from flatulence, which is due either to excessive production or diminished elimination of gas, or from abnormal bacterial activity, to the presence of irritating or indigestible food, constipation, or partial stasis of the intestinal contents, intussusception, twist or strangulation, obstruction from any cause, inflammation, ulceration, and the presence of worms. All, and each separately, produce the condition with which we are at the present moment dealing.

Colic, really, should only be used where there is neither mechanical nor inflammatory agencies operating in its production, but in practice we use the term generally, and embrace all cases of abdominal pain in the earlier stages of their appearance because, from the exhibition of the first noticeable symptoms, a period of time must elapse before we can with any degree of certainty definitely state the causes that are in operation; therefore, so far as we are concerned, we accept the term "colic," and include the lot with, however, one exception—discontinuity or rupture in any part of the gastro-intestinal system. Here the symptoms are diagnostic, and the termination is assured.

Although I intend my paper to be a practical one, I think it advisable briefly to survey the function of the gastro-intestinal system. Not only will it point out to us the method of treatment we should adopt when its environment is abnormal and inimical to the organism's preservation, but it will demonstrate to us that in spasmodic colic the abdominal pain is entirely the result of excessive neuro-muscular function.

When food enters the stomach it provides the stimulus requisite to initiate the digestive process, and as a result of which the food is pushed along the alimentary tract. In this journey it is broken up, more or less separated, and becomes fitted to be operated upon by the various glandular secretions when it reaches the anatomical positions in which they are situated.

Whilst this process is in operation, and as a direct result of it, the several chemical constituents of the food become soluble, are chemically altered, and are then suitable for absorption. This accomplished, it supplies the tissues with all that is necessary both for present and immediate future requirements.

After abstraction of all the assimilable elements contained in the food a residue remains which varies in quantity according to its original chemical constitution, and this must be eliminated in the form of excrement. This is also brought about by the same action as that required to start it, in the first instance, on its journey.

The action or movement which confers this propulsive power on the system under consideration is known as peristalsis, or peristaltic action; it is a reflex act, and depends on the following factors for its production: (1) A receptor or initiating organ; (2) a conductor; and (3)

an effector. The first is supplied by the nerve terminals situate in the visceral organs, and the second and third by the chain of neurones which convey the necessary stimulus to and from the nerve centres, the stimulus to set the operation going being, of course, the contents present in the gastro-intestinal system.

It is important to remember that the seat of pain is located in the cerebrum, and that reflex action can become operative even if this part of the cerebro-spinal system is obliterated. This is a point to remember when dealing with "pain," and has some bearing on the method to be adopted in combating it.

Reverting to peristalsis, it may be accepted that the strength of the muscular contractions produced is proportionate to the amount of irritability exerted in its production; thus food of a fibrous, bulky and coarse texture demands far more strenuous attention than does an equal bulk of soft, non-irritating food of a succulent nature, and it has seemed to me, where an animal has been suddenly turned on to a succulent spring pasture, where, as is generally the case, he has partaken of the luxury provided too freely, rapidly, and in many cases fatally, that the required stimulus to deal with this unexpected environment is not developed with sufficient rapidity, consequently fermentation or putrefaction commences in the food, an already distended stomach is still further inconvenienced, the muscular fibres of the stomach become stretched, and, finally, so abnormally are they affected that they refuse their office, and a paralytic condition of the organ follows which terminates in death. Here, then, we might assert that we have caught the alimentary function "napping," and the reason I attribute for this state of things is that the animal, having previously been fed on food which, owing to its constitution had provided a stronger stimulus, the function had, as it were, become mechanical or automatic, and could not discriminate with the celerity demanded when a different food, both chemically and physically, had been partaken of.

For the purpose of this paper it is unnecessary to more than note several gastric conditions which, probably unrecognised during life, are pointed out to us on post-mortem. Ulceration, malignant disease, acute inflammatory areas resulting from the action of chemical irritants, all come under observation usually only when death has occurred.

Apart from the irritation produced by the presence of worms in the intestinal canal and the partial stasis existing in the less severe forms of constipation, we may look upon all those cases affecting this part of the anatomy which require our attention as due to obstruction, unless, of course, it arises from that very uncommon disease, enteritis.

Obstruction is a condition produced by accumulations of undigested food, malignant disease, intussusception, twist, and strangulated bowel from any cause. It is not necessary to differentiate with minuteness these various pathological conditions. It is sufficient to state that they cause in most cases unsurmountable objects whereby they prevent the system from carrying out its necessary function. As the result of their presence irritation is set up, abnormal neuromuscular action commences, the circulation is interfered with, and intestinal glandular secretion is more or less inhibited. Unfortunately for us as practitioners, the finer methods adopted by the human attendant to aid him in his diagnosis are not at our command, therefore we must adopt a method of treatment which, whilst in ignorance of the exact conditions prevailing, will return for us the best average results.

Where an obstruction exists, it opens up many possibilities; we know that peristaltic action will strenuously attempt to gain mastery, and will continue its fight until the nerve cells tire owing to the chemical changes which occur in them as the result of the using

up of their store of oxygen; or, further, until inhibitory action initiates its function; this, as you all know, does take place, and can be proved by each of you if you will endeavour to observe evidence of peristaltic motion in an animal subjected to a condition of obstruction.

Also, we may, as the result of the continued presence of the obstruction in contiguity with the intestinal wall, get ulceration, sloughing, perforation and peritonitis, and in several cases which came under my notice at one farm some years ago, this latter condition took place when the obstruction commenced to move, and was followed by death. Again, we must recognise that our animals are vegetable feeders, and that in this class of ailment there are an enormous number of bacteria. When an obstruction exists the peristaltic action is specially energetic anterior to it, and the food is passed rapidly towards it; here it may finally become more or less liquefied, stasis follows, and thus is provided a most favourable situation for bacterial decomposition.

It is now my intention to speak of the methods I employ to deal with the situations we have observed. No doubt it will be thought rather risky, that is, some part of it, but I am of the opinion that when you are aware of the fact that an obstruction is present, the sooner you go for it the better is your chance of removing it; that is, if it is one that can be so subjected. If it is not, however, it does not really matter so far as treatment is concerned, because the earlier these incurable cases are terminated the better it is for all those connected with them.

In speaking of the agents I use in the endeavour to procure a favourable result, I am conscious of the fact that many practitioners have remedies which it would take more than average persuasion to get them to eliminate from their routine treatment. Some use general stimulants, others local or general sedatives. Personally, I use a combination of tinct. morphia and chloroform, together with turpentine. As an ordinary draught it has served me well; its combination is good, because it also possesses an antiseptic action.

Sometimes, the action we desire is not forthcoming; it may be that the medicine given does not control the local spasmodic action—it may have been altered in its chemical constitution, or cannot come in contact with the area of irritation; therefore, I administer morphia and atropine subcutaneously. This, if effective, brings the local irritation under central control, and if your case is one of spasmodic colic it usually rapidly disappears.

This desirable consummation is often delayed. Pain continues, and we are then faced with a problem which demands serious consideration, unless, of course, you are in the habit of treating similar cases in the same manner I adopt. Some practitioners would administer a physic ball or draught, then submit themselves to a condition of "masterly inactivity." Personally, I think this a very unprofitable occupation, because whilst you are waiting for this very, very slow process to operate, a favourable opportunity is granted for unfavourable work to be accomplished through agencies which have previously been enumerated.

It is several years since I commenced to use physostigmine salicylate, and if there are any members present who have declined to use it on account of the many "terminological inexactitudes," related about its action, I would ask them to follow out the methods I adopt—where its use appeals to me as absolutely necessary—and I venture to assert it will then become part of their general treatment. Physostigmine is a gastric, intestinal and hepatic stimulant—it increases peristaltic action and is, undoubtedly, the finest agent we have when there is impaction, obstruction, or paralysis of the gastro-intestinal system. But it is to be remembered that the actual cause of a removable accumulation is not always because the food was of an indiges-

tible nature, there are other causes which bring this condition about, and these entirely referable to deficient neuromuscular function which is also further complicated by the necessarily similar condition affecting the intestinal glands and their function.

This, then, is the drug to inject subcutaneously, but before doing so give, orally, a pint of warm linseed oil. If there is intestinal distension give a clyster, examine the bowels per rectum, and if you find there is a possibility of relieving the accumulation of gas, tap the bowel in this position with a small trocar or a large hypodermic needle. I advise this position, because to produce an unnecessary wound through the flank whilst an animal is in the condition under notice, is bad treatment; it produces irritation, and opens the way for septic or inflammatory conditions which, under existing circumstances, are capable of producing an amount of inhibitory action on the abdominal viscera which is unfavourable.

Having attended to the preceding instructions, inject physos. salicylate, but do not use too fine a needle, because the preparation is not quite soluble and it may plug the needle up. After this, wait for the drug to do its work. In many cases the interval is not long; I have seen expulsion of faeces in seven minutes. Usually the animal will lie down broadside, give a sigh of "suddenly realised alteration," expel gas per rectum—which it repeats in a few minutes; later it gets up, sometimes gives itself a natural shake, then there is the appearance of faeces, sometimes not much, but usually it is soft in character, and is followed at short intervals by further action and greater quantities; I cannot say, as some do, that it produces salivation. I have not observed it as one does when using arecoline—by the way, this is, in my opinion, drastic; it produces salivation of a copious nature, and I think produces pain. I have only used it three times; in two of the cases we had laminitis in forty-eight hours, the other died, and the owner, having noted the action it produced, swore that I had poisoned it. Since that time I have always used "physos." and with each succeeding year I became more and more convinced that it is the correct treatment.

I will just mention two cases with which I had to deal in November last, to demonstrate the value of the old and the more recent treatment. A client who is an agriculturist, is in the habit of giving his working animals—some in number—a bran mash every Saturday night. He carried out his usual procedure on a certain Saturday, and the next morning, about 6 o'clock, found one of the mares with "colic." He gave one of the draughts I have mentioned, and one hour afterwards gave another; these had no effect, consequently he desired my attendance. I arrived at the conclusion that the mare was suffering from obstruction of bowels, therefore administered the "physos." treatment, to which she responded, and was soon all right. On the farm there were assembled members of a "ratting club," so you can feel assured I entered into their sport.

As I was about to leave at mid-day, another animal, a valuable four-year-old colt was found with abdominal pain. A draught, enema, and finally morphia and atropine were administered, but we had no response. Owing to having acquainted the owner with the various ideas pertaining to the use of physos., he requested me not to use it, owing to the value of the colt. I allowed him to have his own way and stuck to the antiquated methods of our forefathers, which did not avail the animal much comfort or relief. Tired out, I left him about 12.30 a.m., with instructions to give a bottle of linseed gruel every hour, and also to walk him about occasionally. This, of course, is an aid to peristalsis; it varies the intra-abdominal pressure through contraction of the abdominal muscles.

Imagine my disgust when at 5 a.m. I was called out to attend the animal again. On arrival I found a state of things which irritated me very considerably. The animal was suffering severe pain, bathed in perspiration, abdomen distended, and presenting every appearance of an animal that is rapidly qualifying for a position in a cat's-meat factory. Without hesitation I at once applied the "physos." treatment, and I can assure you its effects were simply marvellous. In fifteen minutes we had one motion, in one hour we had approaching a dozen, and the animal soon became calm and contented.

Here you will see we had two animals suffering under the same conditions of work, food, and usual routine treatment, the first had "physos." early in the attack; the second at a longer interval; the first recovered, and we had no further trouble with it; the second was a source of worry for upwards of a week; he would not eat, was occasionally subject to slight abdominal irritation, his temperature and conjunctiva varied—in fact, to put it shortly, he was both unsatisfactory to himself and a source of worry to me. I gave him belladonna and sodium bicarb. for several days—one dose at each end—after which he became his usual self. Now I ascribe this sequel to having waited too long before attacking the obstruction, because I have never observed it where it has been resorted to early, and now that I have realised this, it is my intention in future both to have my own way and administer it quickly.

It will now be seen that the only drugs I employ in the treatment of abdominal pain are Tinct. morphia and chloroform, turpentine, linseed oil, and physostigmine; and I trust you will not think me presumptuous when I state that, armed with this small combination and a hypodermic syringe, I should consider myself adequately provided for all abdominal cases to which I might have to attend.

DISCUSSION.

The PRESIDENT: I think you will agree with me that this paper has taken a considerable amount of time and trouble on the part of Mr. Brown to prepare, and it now remains for us to discuss it. For my own part, I think a paper of this kind is more valuable if the reader can bring forward something definite in the matter of diagnosis. I, personally, find some difficulty in differentiating the forms of colic with which one is confronted in practice—an ordinary case of obstruction, a case of stone, a case of twist, or a case of rupture. I think I understood Mr. Brown to say there were distinct diagnostic symptoms in the case of rupture. One thing that he did not mention, and which, from experience, I find to be very necessary, is rectal examination. One goes to lots of cases of colic, and I know that in many instances, rectal examination is not made.

I had an instance the other day of its value. The pulse was very high, but there was evidently obstruction. When I tried to insert my hand in the rectum I found that about 3 inches inside beneath the rectum, between it and the bladder, there was some kind of an abnormal growth, and that was the cause of the trouble. If I had gone on with the treatment described by Mr. Brown, I do not think I should have had the success obtained by the use of the hand and subsequent warm enemata. The cause of the trouble was removed, and the animal recovered. That is merely a suggestion, and on that I think a valuable discussion on this paper can be evolved.

Mr. T. C. FLETCHER: I am sure in listening to Mr. Brown's paper we were all relieved to find that the treatment of certain diseases that we are no doubt bothered with is so simple. I am sure I am relieved because I have stayed up a good many nights and spent a good many hours in studying the various phases of

colic, many more than I shall do in future if I adopt Mr. Brown's treatment. I knew from previous speaking with him that in giving his method of treatment he was going to lay particular stress on the use of physostigmine. It is well to have a good opinion of your own treatment, because you take a firmer hold of your case than if you are not quite confident as to which particular form of treatment you should adopt for a particular form of colic. Now, to my mind, Mr. Brown has used the term colic rather widely. He classes under it cases of obstruction, stone, twist, and rupture. He even puts under the head of colic cases of intussusception. Perhaps in our ignorance in diagnosing intussusception we are prone to the use of the word colic—often suggested by the owner. By agreeing with him so far it relieves us from making a more definite diagnosis than that at present we have got a case of colic.

Colic has always been to my mind a synonymous term for a spasm of the bowel, and in all colic drinks we are trying to formulate a drug of sufficient value to relieve spasm of the bowel, and I think that is our first duty, because the diagnostic symptoms that we go on of the different diseases that Mr. Brown enumerates under the name of colic are consequent upon time and upon our observations of the animals. There is no doubt that the rectal examination of our cases is a thing that we very often shirk. I have shirked it myself in dozens of cases, but an instance occurred to me some 12 months ago that taught me that, although it was a cold day, and it is not a nice job to make a rectal examination, we must put on one side our feelings and make such an examination when in doubt.

Mr. Fletcher then cited several cases which had occurred in his practice. He discovered a case of flatulent colic, in which, by rectal examination, he found that the distended bowel filled the pelvic cavity and obstructed the rectum. By pressing the distended bowel forward for four or five minutes, gas escaped almost immediately and afforded relief.

A second was the case of a pony in which a dose of physic did not seem to have effect, and in consequence he injected a grain dose of physostigmine, but with no result except that the pain was increased. In the course of time the physic acted with very gratifying results, so he shall not feel inclined to follow the physostigmine treatment with the same vigour as Mr. Brown. He is a strong believer in exercise, which probably acts by producing debility in the animal and counteracting the depressing action on the muscles of the bowels. In support of this Mr. Fletcher gave an instance where an owner invariably sends his cases of colic a considerable distance to his infirmary, and how he had been struck by the number of cases which, on arrival at the infirmary, required no further treatment. He said that one sometimes comes across a case where the results obtained by post-mortem examination make one ashamed of oneself, of one's treatment and powers of diagnosis, and these are the cases which make it necessary for veterinary surgeons in practice to treat their clients as well as their cases.

Mr. GREEN: I must thank Mr. Brown for the very able paper which he has given us, and which has proved so very interesting, because it is a subject upon which there is a large amount of latitude, and it is a subject upon which any amount of discussion can take place. In the first place I noticed that Mr. Brown left out what is, in my opinion, a very important matter, that is, when I go to a case of an animal suffering from colic, whatever the cause, the first thing I do is to take the temperature, next I take the pulse. The character of the pulse in a case of colic must be a very essential point in the matter of treatment. If I go to a case where I have got a good pulse, where the temperature is normal, where there is little or no distention, then I

say to myself I have a favourable case. If on the other hand I go to a case where the temperature has probably risen to 103, with a considerable amount of distention, and the pulse is down, then I begin to ask myself what is the cause of this. Many cases of stoppage are not due to obstruction by food, but due probably to a chill which is affecting the nervous system and the pulse, and probably, as Mr. Brown mentioned, due to some paralysis of the muscular coat of the bowel.

For my own part I am not a believer in physostigmine. I never use it now. I have used it on many occasions. I have had cases where in the initial stage the pulse has been a good pulse, and the temperature has been practically normal. The case has not got on as satisfactorily as one would wish, and I have injected $\frac{1}{2}$ grain of physostigmine. With what result? A considerable increase in the amount of pain, and, in many cases, when I have taken the temperature again it has bounded up, the pulse has become weak and thready, and in course of time death has taken place. Now what I would like to ask is—is this the result of the action of physostigmine on the pulse, or is it the ordinary course of the case? In my opinion many a strangulated bowel is due to physostigmine.

There are one or two other points which I wish to touch upon. One is the use of colic drinks. I think the persistent use of colic drinks is a very invidious procedure. I believe that many a horse has been poisoned by the use of drugs such as opium and other sedative agents, and if you find that a couple of colic drinks do not relieve a case then I think that other measures are necessary.

My mode of treating colic is in the first place to give a colic draught. I might say that I make it up of 1 oz. tinct. opium, $\frac{1}{2}$ oz. tinct. chloroform, and 1 oz. turpentine. If that does not act, I give another in an hour perhaps, not less. If that does not act I give a physic ball, and I am not ashamed to use the old fashioned treatment. In an hour's time, if there is no relief, I administer stimulants and repeat this every three hours, and I must say I have had a considerable amount of success, in fact, I have had more success in treating colics, stoppages, etc. by this treatment than I have ever had by using physostigmine or arecoline. If they do not respond to this I tap the bowel in the old fashioned way through the side. There is just one other point I should like to mention, and that is exercise. I think it is a very cruel and a very wrong thing to cause an animal which is suffering a large amount of pain to be dragged around a field or walked about for hours. I put myself in the position of this animal. It is suffering great agony. One would not like if in pain of that description to be made to walk about for hours.

Mr. FURNESS: I am very glad to have heard Mr. Brown's paper, and I think I shall have to express myself as one who practices the old fashioned treatment. I have not had very good results from physostigmine. Different cases require different treatment. I do not see much objection to exercise in moderation, as many times you will have noticed a horse in pain will take exercise himself, so if he is conducted about a field I do not think there is very much difference. I was rather amused at the owner accusing Mr. Brown of poisoning the horse. I had a similar case some time ago. I did not like the look of the horse, and the owner said "that it would never be better if he did not have a passage," a remark with which I agreed.

Mr. BOWETT: I should like to ask Mr. Brown to say what is his method of treatment in the case of a mare heavy in foal. I do not think myself that morphia has much effect as a sedative on horses. I think chloral is much better. I also think that in cases of colic there are other things to be attended to besides stoppages. If the horse's heart is very much down I think it is

necessary to give him hypodermic injections of strychnine.

Mr. SMITH: With regard to physostigmine, I have given it a very fair trial, and I cannot say I have had any good results from it. Of course, like one or two of the previous speakers, I am not ashamed of saying that I go in for some of the old fashioned treatment. There are two things which Mr. Brown did not mention—one is counter-irritation, and the other fomentation. With regard to counter-irritation, I cannot say that I am altogether in favour of it, but in some cases that is the only thing that you can do. I place a lot more faith in fomentation, but as many of you will know, in cases of great violence it is impossible to use that course of treatment, and I have in some of these cases resorted to counter-irritation, and I must say that it has acted fairly well, but I have never been as satisfied as I have with the results obtained with fomentation.

Mr. COLLINSON: In country practices we get a lot of colic, and some years ago I was very great on using physostigmine, but had very bad results. Latterly I have used arecoline, and got better results than formerly, but I always make a point of telling the owner, provided he has not had a case before, that there will be a lot of salivation. I make a rectal examination in the majority of cases, because I think it is one of the best ways that we have of diagnosing a case. The use of the thermometer is also a good thing. One thing that has not been mentioned is massaging the abdomen. I find that if you have a horse that is subject to flatulence if you get a good hedge stake, or a good fork handle, with a man at each side to massage the abdomen, in a good many cases you get rid of a good lot of flatus in that way. As a sedative for colic I, too, use chloral, giving 1 oz. as a dose. If that does not act I give a hypodermic injection of arecoline. If you get an action by arecoline in the first instance you hear the bowels working, and if you do not get an expulsion of faeces or flatus I think it is advisable to repeat the arecoline if the horse is not in very great pain.

I had a case 12 months ago. It was a half-legged horse which used to run a grocer's dray. This horse had a stoppage for nearly three weeks, but no pain. He was treated. He had a gallon of warm oil, physic balls, and I do not know how many hypodermic injections of arecoline, and I think he had three dozen nux vomica powders. Mr. Green came in consultation, and we decided to destroy him. We made a post-mortem and found he had a partial twist of the bowel, causing an obstruction in the small bowels. He had had a good pulse all the time. He was examined per rectum several times, and there was rectal obstruction, as each time he had a hypodermic there was inflation of the bowel.

Not long ago I was fetched to a horse with colic. The rectum was dilated, and there was nearly half a barrel of manure in his rectum. As soon as this was got away I gave him an enema and six nux vomica balls. He made a satisfactory recovery. He was a hunter, and he had been sent to a farm to eat for work. He was put on to cart horse feed, a lot of chaff, and I rather thought he was not getting a sufficient quantity of water to stimulate the bowel.

Mr. SAMPSON: I have been thinking about colic today, thinking I might want to say something to Mr. Brown. In looking back as far as one can without the aid of a case book, and taking into consideration the character of the colic that one gets, I have come to the conclusion that cases of colic in towns vary considerably from those one gets in country practice. There is one difference—that is the feed. In the country the animals are fed on rough chaff and little corn, but in town you get a liberal allowance of corn and good feed. I should like Mr. Brown to give his opinion. It may account for the number of cases of volvulus in the

towns. In my opinion you get a smaller percentage of twist in the country. I have used physostigmine, and also arecoline and hydro-bromide. As to the latter you get such an abnormal amount of salivation that it does not leave a good impression on the client. I should like to have had an expression of opinion from Mr. Brown as to the horse lying down or being kept up in colic cases. One sometimes get a stubborn client who will not allow his horse to lie down. I should also like to hear if it has ever occurred to Mr. Brown to operate where it has been possible for him to diagnose mechanical obstruction.

Mr. ROBINSON: I have used arecoline, and I have used physostigmine, but I cannot say I am very much in love with either of them. Of course the main thing is choosing your case, because I have seen rupture of the bowel succeeding both of them. The best remedy is the old one of turpentine and raw linseed oil. I now never use anything else. For the first ten years in practice, however, I did use physostigmine. With reference to massage, I have had good results in many cases by putting a man at either side to rub the patient down.

I am a great believer in the hypodermic injection of morphia when there is pain, and in giving a physic ball. You must first ease the pain, and then something is wanted to move the obstruction.

Mr. THOMPSON: I am not a believer in the use of the drastic purgatives mentioned by Mr. Brown, nor should I ever use arecoline or physostigmine—for this reason. Some years ago I was in Liverpool and came across a man who was a great believer in drastic purgatives. What put me against the use of drastic purgatives was the result of post mortem examinations which showed a state of things I had never been used to seeing, and that was horses dying from inflammation of the bowels. I was there three or four weeks, and in that time I saw four or five cases of death from inflammation of the bowels. It was violent in character, and gave one the horrors to look at it. It was not the inflammation that I have found in a case of twist or anything of a passive nature, and there is not the slightest doubt that it was due to the drastic purgatives. I have used these, but only when I was compelled. Of course my father was a veterinary surgeon, and I have his advice to keep off these fast purgatives, and instead to get the bowels prepared by encouraging peristalsis and effusion into the bowel. Whereas if you use these things such as physostigmine, which Mr. Brown says moves in seven minutes, you can imagine what would happen if the stoppage was a calculus. One thing certainly troubles me with regard to colic and that is where you get the stomach blown up, regurgitation, and gas up the oesophagus, and gas in the stomach, which in many cases I find very hard to treat, and ultimately ends up with a ruptured stomach. The natural form of the stomach with its trap-like exit is one cause of the gas not being able to pass on to the smaller intestines, and then we have the difficulty with the horse that he cannot vomit or pass food. There is no doubt that if he could vomit he would relieve the stomach and would be cured. I remember seeing in one of the papers some years ago a recipe which was said to have produced good results with flatulency of the stomach.

Mr. COLLINSON: With regard to flatulency of the stomach, I should like to ask if any member has tried passing the probang. If you stand at the side of the horse you will hear rumblings at the side of the oesophagus, and if the animal is fairly quiet and the probang is well oiled it is not a difficult matter to pass it into the stomach, when the gas immediately escapes. If the animal is not quiet I put the hobbles on. Before withdrawing the probang I give an antiseptic of glycerine and carbolic acid and pour it down the probang. I have used it several times to cases which have

come round, and which formerly I should have given up.

Mr. MURGATROYD: I was called to a case one night and found a horse which, at a casual glance, you might have said was suffering from congestion of the lungs. There was rapid and shallow respiration. Perspiration was streaming from the horse. I took the temperature and found it to be almost normal. The pulse was very weak. I auscultated the lungs, but the sounds were good. The Owner said "Come away, or the horse will kill you." I came away and the horse dropped down. It would stand for half an hour or so and then fall down. I watched it for some time and noticed that it made attempts at vomiting. I went about four o'clock in the morning and it died about four hours later. I told the owner the horse had probably had a rupture of the stomach. On post-mortem I found the colon was perforated with a jagged irregular perforation. I did not know how to account for it, but came to the conclusion that it had swallowed a nail or something of the sort. It was so peculiar that I told the knacker to keep the specimen on one side in order that I might show it the owner. Mr. Lewis saw it, and took the ulcerated part home and examined it microscopically. He found it was due to the bacillus of necrosis.

REPLY.

Mr. BROWN: I must say that I am very much surprised that so few of you know the value of physostigmine. I have used 144 doses when I have finished the tube which I am at present using. I have used it for five years. Some gentlemen say that it increases pain. It does not do anything of the sort. I am speaking of the salicylate of physostigmine. It paralyses the nerve centres, and the action is on the muscular coat of the bowel. It is not a drastic purgative. It acts through the muscular coat, causing contraction and increased glandular secretion. I always administer a pint of warm linseed oil, for this reason—it is a lubricant, and it is a gastro-intestinal stimulant. When it comes in contact with the bile it forms soaps, and so lubricates the intestine. I think, therefore, the reason of failure is that the lubricant has not been given, and I am very much surprised to hear the gentlemen say they have had bad results. Some gentlemen spoke of morphia and atropine; these act upon the higher centres and dull them, and all nerve cells which come in contact with them, and puts them in the same condition, contrary to physostigmine.

Mr. SAMPSON asks about lying down. Twenty years ago I was with a man who never allowed his patient to lie down. He used to put them in a stock. My candid opinion is this, if you have a horse with distention he refuses to lie down. The more distended he becomes the less he tries to lie down. We talk about the stomach of a horse. It is the most delicate organ in any animal. Suppose you get a horse feeding under different conditions, first on a dry fibrous food and then a succulent food. You know as well as I do that if he is turned out into fresh pasture he will over-eat himself. You know, too, that if a change in feeding is done slowly no harm is done. You can get a stomach used to anything, but if you change a horse's food suddenly in its substance and bulk you are asking for trouble.

With regard to operation, I say No. It does not need any further remarks. You gentlemen have all seen a post-mortem, you have all made them, and I think he would be a very bold man to operate. My opinion is that a twist occurs at first, and I think the loading, and the straining that is necessary to start loads off, is responsible. If you get a twist the horse starts with pain and his pulse gradually runs down. It is a spasmodic contraction originally, and is often due to an attack of pre-existing colic.

If you have a rupture of any size, my opinion is that your animal is as a rule in a cold sweat. If you get an animal in that condition—collapse, cold sweat, cringing—it is my opinion you have a case of rupture.

Mr. Fletcher said that according to my paper the treatment of colic is simple. It is, in my opinion. If you have a case of ordinary spasmodic colic you give the patient a colic drink, and if it is spasmodic colic you may not hit the spot directly, but if you will give him after that a hypodermic injection of morphia and atropine you hit the spot. I do not believe in fomentation. Mr. Fletcher does not believe in physostigmine, and he does not believe in arecoline. I do not believe in arecoline. I have been trying to point out to you that the cause of trouble in these cases is delay. You know in these cases that something has to be moved, and surely the sooner it is moved the better.

I do not attach any importance to the temperature in colic. I do not think there is the slightest indication to guide you as to what the case is to be. You get many a horse with a temperature of 102° to 104° which recovers.

Some years ago I had a series of cases—I think Mr. Bowett will remember them—of obstruction. We did not know the use of physostigmine in those days, and the horse I am thinking of went on several days. As the days went on the pain did not increase. He began to distend and finally died. On post-mortem everything was found to be liquefied in the intestinal canal, and yet there was never any passage. He died of auto-intoxication, and I maintain that if he had had a dose of physostigmine he would not have died.

With regard to colic drinks—we are professional men and we all know the value of medicine. You know as well as I do that there are many cases of spasmodic colic which get better on their own. In such cases it is immaterial what colic drink you give as long as you give them something.

Mr. Green mentioned exercise. You will walk an animal about, and he will be fairly easy, put him in a box and down he goes. Exercise is undoubtedly a fine thing to adopt in a case of obstruction, because it is a stimulant to peristalsis.

Mr. Bowett asked what about a mare in foal. This is a very difficult problem, and I may as well tell you I gave a mare in foal a dose two nights ago and she recovered. I once had a mare and she had three attacks of colic—one before Christmas and two after. She had a dose the first time and the second time. Later, three weeks before foaling, she had a stoppage, and was in a stall lying on her back, and had to be dragged out. I gave her a dose of physostigmine and she had a live foal.

In conclusion, I wish to thank you very much indeed for the way you have listened to my paper. In using physostigmine do not wait too long, do not forget your linseed oil, and if at the finish you find a twisted bowel, do not suppose the physostigmine was responsible, because the twist was there before.

Mr. LLOYD proposed, and Mr. Murgatroyd seconded, that a hearty vote of thanks be given to Mr. Brown for his very able and interesting paper. Mr. Lloyd said that no doubt when the paper was printed in the veterinary press it would cause some comment and discussion, and he hoped that when the discussion did start it would be to Mr. Brown's credit that he had started it.

The members then adjourned for tea.

SPECIMENS.

Mr. BROWN exhibited the fore feet of a pig which he had seen exposed for sale in the market, each foot being practically double. He also exhibited a portion of

the intestine of a horse which had been gradually but completely occluded by the growth of a tumour. He stated that the latter had been examined by Sir John M'Fadyean, who had informed him that the tumour was an adenoma.

Mr. SAMPSON exhibited a dog which had an abnormal growth or thickening in the skin on the side of the neck. He stated that the animal had been under treatment for some time and that the affected part had considerably improved. The owner, however, did not wish to keep the dog longer and intended having him destroyed. He did not know the cause or the nature of the growth.

Mr. Sampson also showed the foot of a four-year-old half-legged mare. The history of the case was that one leg had slipped into a hole, after which the animal was found to be lame. The lameness passed off in four days and the animal worked two days, when the lameness reappeared in a very acute form, and an abscess formed on either side of the coronet. Owing to the fact that there was at first some pain and swelling at the heel, Mr. Sampson thought the cause of the lameness might be fracture of the navicular bone. Mr. Abson, who later saw the animal in consultation, and after the formation of the abscess, thought that probably the wing of the Os pedis was fractured. The animal was slaughtered three weeks after the accident, and post-mortem revealed a longitudinal fracture of the navicular bone, with slight erosion of the corono pedal articulation.

Mr. THOMPSON exhibited a hatpin, 12 in. long, which he had successfully removed from the interior of a Scottish terrier puppy, the pin being nearly as long as the dog. The point of the pin could be felt in the pharynx. It was forced through the skin and extracted until its further passage was obstructed by the head. Mr. Thompson then reversed the direction so that the head could be pushed backwards from the pharynx through the mouth, and so successfully removed it. The dog made an uneventful recovery, and was subsequently sold for £15.

Mr. H. P. LEWIS exhibited a remarkable specimen of tuberculosis of the uterus of a cow. Owing to tuberculous deposit the wall was $\frac{3}{4}$ in. thick, the one horn being much more diseased than the other.

He also exhibited the intestine of the horse mentioned by Mr. Murgatroyd in the discussion on Mr. Brown's paper. This, as already mentioned, was caused by the bacillus of necrosis, the specimen showing well-marked ulceration with perforation.

LIVERPOOL UNIVERSITY VETERINARY MEDICAL SOCIETY.

[NATIONAL V.M.A. NORTHERN BRANCH.]

A Meeting was held on December 19, 1913. There were present: Messrs. J. P. Heyes (President), E. J. Burndred, H. Holroyd, H. G. Hewetson, A. B. Mattinson, F. A. Ball, W. J. Fletcher, T. Dobie, J. W. Brittlebank, J. Sumner, J. T. Share-Jones, A. Walker. Visitors: W. J. Young, C. Holland, A. M. Munro, and J. S. Lloyd.

On the motion of Mr. SUMNER, seconded by Mr. Hewetson, the minutes of the last quarterly meeting were confirmed.

The HON. SECRETARY read a letter of apology from Mr. Henry Sumner, who was unable to attend.

A letter was also read from Mr. Frank Garnett, asking

for a donation to the International Veterinary Congress.

Mr. HEYES (in the chair): You will remember that last year we gave a donation of £5, and my opinion is that we simply gave it as a donation, not as a yearly contribution. Mr. Garnett has applied for a further donation, and I suppose he expects another £5 for this year. It is not within my recollection that any such amount was promised, but perhaps some other member may remember more about it.

Mr. WALKER (Hon. Secretary): In the minutes of a meeting held on November 29, 1912, it states "that we agree to grant the sum of £5 to the International Veterinary Congress."

Mr. BRITTLEBANK: The Lancashire Society undertook two years ago to give a yearly donation of five guineas for three years, making a total of fifteen guineas as their contribution to this Fund. We also allocated to this Fund the surplus of the National Entertainment Funds left on our hands, but of course that was an extra. He (Mr. Garnett) may be confounding the two societies.

On the motion of Mr. BRITTLEBANK, seconded by Mr. Sumner, it was unanimously decided to leave this matter in the hands of the Committee to deal with, with a recommendation that if the funds could afford it to make a further donation of £5.

Mr. HEYES: There is another matter to which we ought to give consideration, and that is the elections. Previously we have entered into arrangements with other veterinary societies to run a candidate from this Society, and on more than one occasion, when we have had a candidate of our own, we have entered into an agreement with other veterinary societies to support their candidates on condition that they supported ours.

I should like an expression of opinion as to whether we agree to follow on the same lines in future.

Mr. FLETCHER was of opinion that if the Society was going to nominate a candidate he should be a man with a policy.

Mr. MATTINSON proposed that this Society co-operate with the Societies of Lancashire and Yorkshire, and he agreed with Mr. Fletcher that a candidate should have a definite policy; Mr. Fletcher seconded.

Mr. HEYES: I take it we are to support the other medical veterinary societies we have previously supported. There has been nothing said about a candidate from this Association. I take it there is time enough to consider that matter. I suppose if we support other societies they will support us if we have a candidate. Are the candidates chosen for any other society?

Mr. BRITTLEBANK, on the request of the President, explained that the Yorkshire Society had notified them and asked for their support for Mr. Mason. For the moment he (Mr. Brittlebank) was the nominee of the Lancashire Association, and so he did not wish to say any more about it, except that there was no other member from the Lancashire Association.

The matter was raised some years ago, when a combination of societies was found to be essential to secure an adequate representation of their men on the Council, and to a large extent that combination was very successful. Of course, it follows that if this Society puts a candidate forward the agreement will work from both sides.

Mr. HEYES: We have not had the matter under consideration, and I take it that if we do find someone anxious to go forward, if he is a desirable person, we shall support him. There is no doubt about the desirability of making the power of the veterinary surgeons felt in the Councils, particularly the Council of the Royal College of Veterinary Surgeons.

Mr. Heyes then put the resolution to the meeting, which was carried unanimously.

DAIRY INSPECTION.

WITH SPECIAL REFERENCE TO THE TUBERCULOSIS ORDER OF 1913 AND THE PROPOSED MILK AND DAIRIES BILLS FOR ENGLAND AND SCOTLAND.

By J. S. LLOYD, F.R.C.V.S., D.V.S.M. Vict., Chief Veterinary Inspector for the City of Sheffield.

Dairy inspection, we may take it, is for the purpose of ensuring a supply of wholesome milk for human consumption, and in bringing the subject to your notice to-day, I may say that I am honoured in being asked by your worthy Secretary to do so. The time at our disposal may, I think, usefully be spent by taking a short review of what has been done in the direction of dairy inspection in the past, what is being done at present, and what can be done or ought to be done in the same direction in the future. To efficiently carry out this review we must note shortly the various legal and administrative processes that have been in force, are now in force, and what are contemplated in future legislation. We must note the successes and failures of the past and the shortcomings of the present, and judge if the proposals of the future adequately meet those failures and shortcomings—in fact, are such as will tend to turn them into successes. It is, I think, generally agreed that fresh dairy legislation is required and is at hand. Now, therefore, is the time to make suggestions for any improvements that we think needed. It will be too late to do so when the proposed Milk and Dairies Bills have become the law of the land.

PAST LEGISLATION.

Several local authorities, such as London and Liverpool, have power to license cowsheds. Under the Cattle Sheds in Boroughs Act of 1866 yearly licences can also be granted in Scotland. Elsewhere in Great Britain, practically England and Wales, only powers with reservations to enforce registration of cowsheds are given to local authorities. These powers were, in the first instance, given to the Privy Council in the Contagious Diseases Animals Act, 1878, Section 34, a part of the Act which was not repealed by the Diseases of Animals Act of 1894. Section 34 reads as follows:—

SECTION 34 (*not repealed by the Diseases of Animals Act, 1894*).

The Privy Council may from time to time make such general or special orders as they think fit, subject and according to the provisions of this Act, for the following purposes, or any of them:—

(i) For the registration with the local authority of all persons carrying on the trade of cowkeepers, dairymen, or purveyors of milk.

(ii) For the inspection of cattle in dairies, and for prescribing and regulating the lighting, ventilation, cleansing, drainage, and water supply of dairies and cowsheds in the occupation of persons following the trade of cowkeepers or dairymen.

(iii) For securing the cleanliness of milk stores, milk shops, and of milk vessels used for containing milk for sale by such persons.

(iv) For prescribing precautions to be taken for protecting milk against infection or contamination.

(v) For authorising a local authority to make regulations for the purposes aforesaid, or any of them, subject to such conditions, if any, as the Privy Council prescribe.

Under these powers the Privy Council issued the Dairies, Cowsheds, and Milkshops Order of 1885, which deals in detail with registration, water supply, contamination of milk, etc., and revoked the Dairies, Cowsheds, and Milkshops Order of 1879, which, as far as I know, was the first Order of the kind made. The

1885 Order also gave power to local authorities to make regulations under the Order, but, singularly, no provision was made in regard to penalties for non-compliance with the Order or regulations so made. The great drawback was, and is, that the Order is not compulsory.

Following upon the issue of the 1885 Order came a new Contagious Diseases of Animals Act, that of 1886, Section 9 of which transferred the powers of the Privy Council under Section 34 of the Contagious Diseases of Animals Act of 1878 to the Local Government Board. Probably owing to the fact that there was not then in existence a Board of Agriculture, and possibly owing to the shortsightedness of the then Chief Veterinary Officer of the Veterinary Department of the Privy Council, the supervision of dairy inspection under a Contagious Diseases of Animals Act got into the hands of the medical advisers of the Local Government Board.

One of the first results of this transference of power in regard to dairy inspection to the Local Government Board was the issue of the Dairies, Cowsheds, and Milkshops Order of 1886, which in the main provides a maximum penalty of £5 for an offence against the Order of 1885, and a penalty of £2 per day for a continuing offence after written notice of the offence from the local authority to the offender.

The two next important legal powers in regard to dairy inspection are Section 4 of the Infectious Diseases (Prevention) Act, 1890, and Section 71 of the Public Health (London) Act, 1891, which gives the power to medical officers of health to inspect dairies (now dairies also mean cowsheds as well as dairies proper) and, provided he takes a veterinary surgeon with him, to inspect the cows therein if the milk is suspected of conveying infectious disease. If the medical officer of health is of opinion that infectious disease is *caused* by such milk, the medical officer of health shall report to the local authority, when the latter may stop the sale of such milk. Were it not for the fact that any report made by the veterinary surgeon must accompany the report of the medical officer of health (and this presumes that the veterinary surgeon must have made an inspection of the cattle before he can report) it would appear that the veterinary surgeon would only be taken to look on. He certainly is given no power under these Acts, and the medical officer of health has no power to hand over to the veterinary surgeon.

This placing of the power to inspect cattle in the hands of medical men has been most unfortunate, and whatever the Council of the Royal College of Veterinary Surgeons was doing in those days to let such a thing occur passes comprehension and has had lamentable results, as the precedent so set has been and is being followed ever since. Veterinary dairy inspection and the veterinary dairy inspector has ever since been placed completely under the medical officer of health.

Following on the above came the earlier Royal Commissions on Tuberculosis, and amongst the recommendations issued in the 1898 report were certain in connection with milk, cowsheds, and elimination of bovine tuberculosis.

Time will not permit to go into these in detail. It will suffice to state that the only practical measures taken by the Government were the issues of the Dairies, Cowsheds, and Milkshops (Amending) Order of 1899, and a set of model regulations relating to dairies, cowsheds, and milkshops, with a covering letter sent out by the Local Government Board, advising local authorities to adopt the Dairies, Cowsheds, and Milkshops Orders, and to make regulations under them.

The purport of the Dairies, Cowsheds, and Milkshops (Amending) Order was to alter Article 15 of the 1885 Order, so that the provisions of paragraphs (a) and (b), which refer to milk from diseased cows, should in clud

in the case of a cow such disease of the udder as shall be certified by a veterinary surgeon to be tubercular. To give the Local Government Board credit where credit is due, it should here be stated that the circular letter just mentioned did point out that local authorities could appoint a veterinary surgeon for this purpose. But as the Dairies, Cowsheds, and Milkshops Orders were not compulsory, little was done by the local authorities to comply with any of the suggestions of the Local Government Board, and even when regulations were made under the Orders they were, and are, only enforced in town dairies to any great extent, and even then in too many instances with only drastic effect—the elimination of town dairies.

What with the exorbitant demands of medical officers in regard to dairy sanitation and the supervision of sanitary inspectors—many of whom had no practical experience or knowledge of the housing of cattle and the detailed structural requirements to ensure clean and healthy cows—many of the renovated buildings failed to provide the sanitary conditions required. Such enforcement of dairy regulations did not meet the approval of the cowkeeper, who was required to keep his cows clean, or of the property owner, who was compelled to execute alterations to buildings in order to comply with the requests of faddists, and which when completed did not give the satisfactory results anticipated.

In rural districts for many years no regulations were issued, and it is only in quite recent years that the Local Government Board, through county medical officers of health, has brought sufficient pressure to bear to get this done, and it is greatly to be feared that even now these regulations are not enforced. In passing it may be mentioned that it is very probable that the Local Government Board were acting *ultra vires* in dealing with tuberculosis of the udder in milking cows, as their power was vested under a Contagious Diseases of Animals Act, and tuberculosis was then not scheduled under that or any other Act. The right or wrong of this, however, did not matter much, as it was only to a very limited extent that local authorities took any such action under the 1899 Amending Order.

The most progressive local authorities—those of our largest cities—however, were not content with the powers given to them by the Orders, as owing to the application of the latter being purely local they gave no supervision over dairies, cowsheds, or cows in rural districts from which large supplies of milk were being daily consigned for human consumption in such cities. Consequently, in 1899 several cities, of which Manchester was one of the pioneers, went to Parliament for further powers, the result being the inclusion of what are now known as the tuberculous milk clauses in several local Acts.

Here, again, following the precedent of the Infectious Diseases (Prevention) Act, 1890, all the power to deal with tubercular infected milk was given to the medical officer of health, the veterinary surgeon again having to take a back seat.

A considerable number of towns have since obtained these powers, and where they have been persistently enforced a considerable diminution of tubercular infected milk supplies has followed, the percentage in some towns having dropped from twenty or over to as low as five. The latter figure has, however, not been maintained, and the cause is not far to seek. The action under the tuberculous milk clauses only finds the tubercular cows some time after the udders have become affected; the action does practically nothing to remove the sources of infection from other cattle, and consequently the supply of cattle affected with tuberculosis of the udder is not persistently and constantly diminished. Instead, there is a persistent, if variable, number of tuberculous milking cows constantly in the dairy

herds of this country, with the consequence that not less than 10 per cent. of the total milk supplies of large towns are generally infected with tuberculosis. It should be mentioned here that the tuberculous milk clauses give local authorities possessing them power over milk supplied either within or without the area of such local authorities. Infected milks sent in from rural districts can be followed and the implicated cows examined. County local authorities keenly resent this outside inspection by the officials of city authorities, especially when, as in some cases, milk is supplied from the same district, and possibly from the same farm, to more than one city. In such cases there is a possibility of multiple inspections, which the offending local authority state is unnecessary and irksome. The Milk Bill, as we shall presently see, tries to remove this difficulty, but it appears to me, and as I shall try to prove, in a very inadequate manner. Somewhat similar proposals are embodied in the milk clauses of the Borough Police (Scotland) Act, 1903. The powers of the tuberculous milk clauses are given to local authorities in their own areas, but in case of outside areas the responsibility of finding the cow or cows with tuberculosis of the udder or giving tuberculous milk is thrown upon the medical official officer of health and veterinary surgeon of the district from which the tuberculous mixed milk was first supplied. Otherwise in Scotland and in Ireland the Orders and Regulations relating to dairy inspection are on similar lines to those already detailed for England and Wales.

Additional powers for action towards the prevention of tuberculosis amongst people and the elimination of tuberculosis from amongst cattle, however, have been granted to Ireland. The Tuberculosis Prevention (Ireland) Act of 1908 is a comprehensive measure, and amongst other means taken in the interests of human beings is the power for local authorities to appoint bacteriologists and veterinary inspectors. It should be noted here that only medical practitioners can be appointed bacteriologists—another injustice to the veterinary profession.

In 1909 the Local Government Board for Ireland made a General Order, cited as the Sanitary Veterinary Inspectors Order of 1909. Under this Order local authorities may, and when directed by the Local Government Board for Ireland, shall appoint veterinary sanitary inspectors for the purposes of dairy inspection in co-operation with the medical officer of health, but attending the meetings of the sanitary authority and reporting direct to that authority. I am not aware how many of these appointments have been made, but trust they will become universal throughout Ireland, as they are a distinct advance from a veterinary point of view upon anything yet done in Great Britain.

Towards the elimination of tuberculosis from amongst cattle Ireland again leads the way, as in 1910, the Bovine Tuberculosis Notification (Ireland) Order of 1910 was made by the Department of Agriculture and Technical Instruction for Ireland. This Order requires similar notification to the Tuberculosis Order of 1913, but only to the police, who in turn must notify the Department of Agriculture and Technical Instruction. What the Department has done in such cases I do not know.

PRESENT LEGISLATION.

As you will have gathered from my previous remarks most of the Orders and Regulations dealing with dairy inspection are still in force. One Order now in force—although not dealing strictly with dairy inspection, but practically being, and intended to be, of considerable benefit to both producers and consumers of milk—remains to be noted, and that is the Tuberculosis Order of 1913. As the Order is so recent, and consequently is in the knowledge of all present, I need not deal with

it in detail, but would like to draw your attention to the main points, and have pleasure in handing round copies of the Order for reference. As you will see, Articles 2 and 3 require notification by owner and veterinary surgeon. Article 4 deals with veterinary inspection and diagnosis, which, when positive, requires slaughter of the diseased animals under Article 5. Before doing so, however, the animals have to be valued under Article 6, and here the trouble begins, as owners and valuers have very different ideas regarding the value of diseased animals, the trouble being accentuated by the fact that two (tuberculous and non-tuberculous) valuations have to be made. Article 7 provides for the post-mortem examination, and is important in that the amount of compensation paid under Article 8 depends upon the post-mortem certificate. Article 9 and 10 deal with the use of milk from and the detention of diseased animals respectively, and in themselves are very important, as also is Article 11, which deals with veterinary inspection of markets.

It appears to me that now is a convenient time to shortly mention the failings and shortcomings of past and present dairy legislation and inspection, as it is only by having these in our minds that we can adequately consider the proposed Milk and Dairies Bills. I will take these in numerical order as they have arisen in my previous remarks, and point out how in the respective Bills for England and Scotland they are or are not dealt with in an efficient and satisfactory manner.

Licensing v. Registration of Dairies and Cowsheds. In my opinion licensing is far superior to registration. This has been recognised in regard to slaughter-houses throughout the country, and has been found very effectual where the power to license already exists. Licences have to be applied for, certain conditions apply, and when such conditions are not met the local authority can refuse or revoke such licences. Usually licences require renewal yearly, hence local authorities have ample opportunities to deal with defaulting licensees. Under both the Milk Bills only registration is provided for, certainly with conditions, but refusal is subject to appeal, and registration can only be revoked by a court of summary jurisdiction, with appeal to quarter sessions if desired. Annual registration is not required.

Adoptive v. Compulsory Dairy Legislation. Under Clause 6 of the Scottish Bill local authorities are required to make bye-laws to deal with the inspection of cattle, dairies, and cowsheds; for the prevention of impurities; and for precautions against infection. There is no such clause in the English Bill, but Clause 15 reserves power to the Local Government Board to make Orders dealing with such matters—a power which seems to be a favourite with the permanent officials of the Local Government Board, one which all agricultural bodies resent, and one which will, as under the Public Health (Regulations as to Food) Act, not be used to the advantage of the veterinary profession. This clause ought to be deleted, as no Government Department should be trusted with such autocratic powers. Either the Scottish clause should be inserted in the English Bill, or the bye-laws themselves should be embodied in it.

Uniform Inspection. If the bye-laws were embodied in both Bills this would result, as all parts of the country would be served alike, not so much in detail as in principle. Adequate lighting, efficient ventilation, sufficient cubic space, impervious floor, proper drainage, satisfactory disposal of manure, etc., would all be obtained, due consideration being given to the respective requirements of urban and rural districts, a minimum, however, being fixed for each district.

Owner v. Occupier. Structural alterations reasonably necessary for the legal use of premises for dairy purposes have, under Clause 16 of the English Bill, to be borne

by the landlord. This clause does not appear in the Scottish Bill, which would be greatly improved by its inclusion. The English clause is apparently on similar lines to that of the Factory Act, which has been found to work well.

Efficient Administration. As pointed out previously, most owners and occupiers of cowsheds and dairies have objected to the requirements as being faulty owing to inefficient administration. Under the English Bill practically all power is to be given to the medical officer of health. In the Scottish Bill three sets of officials have statutory positions—medical officers of health, veterinary inspectors, and sanitary inspectors. So far as dealing with human beings, human disease, human infection, the medical officer of health should be supreme officer, and, so far as I know, no one wants to interfere with his powers or position. Regarding the interests of animals, I deny that he is the proper person to have full control. His training and experience do not warrant it. His efforts of the past, either in relation to cows, cowsheds, or disease of cattle (as witness the Hendon and such-like cases) do not support it. It is also questionable if the sanitary inspector is any better qualified to inspect the sanitary condition of dairies and cowsheds, and this is apparently recognised in the Scottish Bill, Clause 4 giving equal power to the medical officer of health, veterinary inspector and sanitary inspector to inspect dairies and make reports. Where one sees stalls for cows 8 ft. 6 in. long, with a corresponding width, a drop of only two or three inches from the heel-stone to the dung channel, sufficiently numerous air inlets to blow the cows out of the cowsheds, a lowered outlet in the roof 11 ft. long and 3 ft. wide, one wonders where sanitary inspectors demanding such conditions have obtained their knowledge of the sanitary requirements of cowsheds; such knowledge is certainly not the outcome of practical experience, or an acquaintance with the essentials of efficient animal health. Only persons fully acquainted with the hygienic requirements of animals, both in health and disease, should have the the supervision of sanitary conditions necessary for the successful housing of cattle, and it cannot be contradicted that the practical veterinary surgeon is best fitted by education and experience for this work.

Veterinary Inspection. In past dairy legislation failure has largely been due to lack of organised and adequate system of veterinary inspection, and even in the new Tuberculosis Order this is not provided for, the success or failure of the Order being to a large extent left to the manner in which the notification clause is complied with by owners and practising veterinary surgeons. Where the tuberculous milk clauses have been most successful has been where there has been systematic veterinary inspection, the experience being in Sheffield that the more individual examinations of cows made in a year the greater number of tuberculous udders found. The same experience holds good in outbreaks of parasitic mange and glanders; the greater the number of in-contact animals examined the greater the number of affected animals found, and the more successful the working of the Orders becomes.

In the Scottish Milk Bill, Clause 3, the appointment of veterinary inspectors is on similar lines to those already mentioned as occurring in the Irish Sanitary (Veterinary Inspectors) Order of 1909. That is, local authorities may, and when required by the Local Government Board shall appoint veterinary inspectors under the Act. The appointments, however, are amplified in the Scottish Bill, in that the veterinary inspector has a statutory position, must not engage in private practice without the consent of the Board, has security of tenure of office, or cannot be dismissed without the sanction of the Board. The veterinary inspector on appointment can nominate a deputy, and under Clause 4 of the Bill must inspect the cattle in every dairy in his district at

least once a year. This, of course, does not preclude him from making a more frequent inspection if he wishes to do so. Somewhat similar power of appointment is given in the English Bill, Clause 14. This clause, however, also gives county and sanitary authorities power to employ any inspector or other officer (lay inspectors) appointed under the Diseases of Animals Act, 1894, and to employ a bacteriologist. Seeing that in the Irish Tuberculosis Prevention Act, 1908, bacteriologists must be medical practitioners, and seeing that the Local Government Board for England in 1899 recommended that inspectors of nuisances should be appointed lay inspectors under the Diseases of Animals Acts, to act under the medical officer of health, this clause requires watching by the Council of the Royal College of Veterinary Surgeons, otherwise it will certainly be used as a means to get only medical men appointed as bacteriologists, and to get the administration of the Diseases of Animals Acts under the supervision of the medical officer of health as is done to-day in Liverpool, Nottingham and other towns that I can mention. The English Bill does not demand systematic veterinary inspection in any form. To get the best out of the Diseases of Animals Acts and Orders (including the inspection included in the proposed Milk Bill), I am of opinion that as far as veterinary inspection of animals and sanitary inspection of houses for animals are concerned this work should be carried out by a veterinary staff in the employ of county and county borough councils and working under the supervision of the Board of Agriculture and Fisheries. I do not think the administration should be handed over to medical men or left in the hands of the police. The frequent visits of the latter in connection with the working of the Tuberculosis Order is, I know, resented greatly by owners of cattle in country districts, and is greatly interfering with notification under and the successful working of the Order. That a central authority is necessary to supervise the work and to spur local authorities on is very evident from the unequal manner in which the Tuberculosis Order is now being worked in different districts. In one large county I know, having a cattle population of 150,000 head, all the veterinary inspection under the Order is being done by one part-time veterinary inspector. In that and other counties, owing to opposition to the Order, chiefly on account of the large expense entailed by administration and compensation, with only a minority of the latter coming from the national exchequer, whilst the whole of the former falls on the county rates, the efficiency of the Order is being greatly curtailed, and the good results anticipated by the Board of Agriculture are not being realised.

My own idea of administration would be the appointment of whole-time veterinary officers for each county and county borough, to supervise and control the veterinary work for his district, the actual work of veterinary inspection being left in the hands of local practitioners. Indeed, I see no reason why practising and notifying veterinary surgeons could not deal with all cases arising in their practices, subject, of course, to the guidance, and if necessary, assistance of the country veterinary officer. The latter should be provided with a laboratory properly equipped and licensed for the biological examination of milk, etc., his work in turn being supervised by the Board of Agriculture. At least half of the expense of administration and compensation should be borne by the State.

Status of Veterinary Officer.—I cannot pass from this matter without a word regarding the status of the majority of present whole-time veterinary officers. Nearly all are subordinate to the medical officer of health, a position which is very deterrent to the status and pay of the veterinary officer, and which will have to be radically altered if the work of veterinary surgeons in public health matters is going to take the place

of the inroads in veterinary practice resulting from the coming of light and heavy mechanical haulage and the decreasing number of horses requiring veterinary treatment. Owing to the subordinate position the work of the whole-time veterinary inspector does not receive the recognition it requires or deserves. The veterinary officer is looked down upon as an inferior official; his reports often go to medical officers, who smother them or edit them; the veterinary officer in many cases does not attend committees dealing with his work unless it is necessary for him to be present to take blame that should fall often on other shoulders and to receive the consequent "slating"; the pay is often very inadequate and almost impossible of being increased. I will give briefly four examples all in one county. (1) It has taken twelve years to get a total annual increase of salary amounting to £125 per annum; (2) it has taken seven years to get a total annual increase of £35 per annum; (3) a few years ago a veterinary inspector for a county borough was appointed at a salary of £130 per annum; (4) a veterinary inspector holds his appointment as one of the staff of the Chief Sanitary Inspector—a layman. Someone in authority wants to look into these matters. It is not the way that the medical officers are dealt with. Thanks to the care of the Local Government Board, it is seldom that a whole-time medical officer is appointed at less than £500 a year, and the Local Government Board is now making further inquiries into such salaries. I feel that I have probably taken up too much of your time in dealing with matters already mentioned. There are, however, a few others that I would like to put forward for discussion, more particularly in connection with the Tuberculosis Order and the Milk and Dairies Bills.

Notice of Disease.

2.—(1) Every person having in his possession or under his charge

(i) any cow which is, or appears to be suffering from tuberculosis of the udder, indurated udder or other chronic disease of the udder; or

(ii) any bovine animal which is, or appears to be suffering from tuberculosis with emaciation

shall without avoidable delay give information of the fact to a constable of the police force for the area wherein the animal is, or to an Inspector of the Local Authority, and the constable or Inspector shall transmit the information to the Local Authority, who, if not themselves the Sanitary Authority, shall inform that Authority.

(2) The person in possession or having charge of the animal shall forthwith take such steps as are necessary to secure compliance with Article 9 (*Precautions to be adopted with respect to Milk, etc.*) and Article 10 (*Detection and Isolation of Suspected Animals.*)

Scope of the Tuberculosis Order.—Most veterinary surgeons want to know when an affected bovine animal becomes emaciated. I think the Order should be widened so as to include cattle actively capable of disseminating infection to other cattle, as proved by finding tubercle bacilli in any of the discharges, and no matter what the condition of the animal is. The better the condition the more likely is the carcass to be fit for human food, and consequently the more valuable the salvage.

Cost of Administration.—At least half of this, as well as half of the compensation, should be borne by the Exchequer. The working of the Order would be greatly extended and the results more beneficial.

Stoppage of Milk Supplies.—Tuberculous milk should be dealt with under the Tuberculosis Order, but in case of tuberculous milks from the county the city and county veterinary officers should work in conjunction, otherwise there is a possibility of the cows with tuberculous udders being lost sight of. This is already occurring in some districts, the county local authorities

actually encouraging farmers to sell their tuberculous cows to the butcher or dealer in order to save expense under the Tuberculosis Order. Regarding milk-borne diseases, the medical officer of the consuming district ought to be able to temporarily stop the suspected milk coming from the producing district, instead of having to get the medical officer of health and local authority of the latter district to do so as proposed in Clause 3 of the English Bill and Clause 15 of the Scottish Bill.

Disposal of Suspected Milk.—The Tuberculosis Order, Article 9, orders that the suspected milk shall be sterilised, but does not state what is afterwards to be done with it. It should be made clear that all suspected milk must be sterilised before being fed to pigs or other animals, and that all diseased milk must be destroyed.

There are numerous other matters which occur in connection with dairy inspection, but I have already trespassed too far on your time. Doubtless some of them will be mentioned in the discussion to follow. I shall be glad to hear your opinions on matters mentioned or unmentioned. I am here to learn quite as much as to teach. I have been pleased to be present and to have the opportunity of addressing you. I thank you for your attention.

DISCUSSION.

Mr. BRITTLEBANK: I rise to congratulate my old friend on the very happy manner he has put the material before us. We know his capacity for writing papers, and the lucidity with which he brings the points within the reach of all. I have very little criticism to offer, naturally our interests have been very much in the same field and are practically in unison.

My own feeling is that, without discussing Milk Bills or the legislation we have got, the whole subject should be approached from a somewhat wider basis. My opinion was asked fairly early on as to what I thought of the Milk Bill. Well, I read it, and I re-read it, and I said at the finish I thought it was "rotten."

It seems to me to mark very little advance on the legislation we had before. I have expressed over and over again that with certain reservations I thought the Dairies, Cowsheds, and Milkshops Order was better than anything that appeared in the Milk Bill taken in the House last year. I am referring to the English Order.

It seems to me that under the existing Dairies and Cowsheds Order enormous power was given to the inspector who was appointed to a proper position. He would then be left with discretionary powers of a wide character. I do not admit that a man having great power will invariably use it unfairly; on the other hand, it would be utilised for the general good. If the Dairies, Cowsheds, and Milkshops Order were revised where necessary and brought up to date, made compulsory, and placed in the hands of the large administrative bodies, such as the County Councils, to administer, it would not be long before an enormous improvement took place generally. Clearly, the proper person to administer the Order would be a veterinary surgeon, whose official position should be clearly defined. The whole question is, or should be, a National one. These little things, such as Milk Bills, Orders, and so on, seem to me to be only tinkering with the matter.

I have always thought that if the great body of agriculturists could be brought to recognise through its main society, such as the Royal Agricultural Society of England is, the great value which would accrue to the bovine and equine stocks of this country by the establishment in the first instance of a complete veterinary service throughout the country, it would not be long before such a service were an established fact.

It seemed to some members of the profession that one is out to push the claims of the whole-time officer. The

whole-time officer, to my mind, must be an essential part of any such scheme. But no whole-time officer or officers could possibly work without the paid assistance of the men in practice. They should, and must be, an integral part of the whole scheme.

A further point in dealing with the diseases of animals is, I think, that at present there is too much centralisation of control. Every County Council should administer and be responsible for the control of all animal diseases in that county. It should be responsible, of course, to a central authority. Every county should have a completely equipped veterinary staff of whole-time officers. Every district should have a part-time officer, who would be a practitioner, and who would work in conjunction with the whole-time officer.

By a scheme of that sort the activities of the veterinary officers could be directed in many directions other than tuberculosis. Everything nowadays seems to hang round tuberculosis. I, personally, live on it. The consideration of one disease, and one only, is a mistake, and we should lay our claims before the community in a much larger sense. If you could get such a staff created, naturally you would not be long before you instituted a system of proper control. Most of the veterinary officers at present serving as whole-time officers have their range of activities limited, and their attentions confined to certain directions.

There is another difficulty which has always appealed to me, though it is the same wherever you go, in a rising profession such as the veterinary. It would be difficult to secure administrative positions without being subjected to control from somebody. Of course, I know there are very many objections to be raised in the experience of work with medical officers; happily, my experience has been somewhat different. But as far as I can see in the work of large corporations there are two separate classes of people in control—one a professional man, the other a layman, usually termed a superintendent—and as far as I can judge from what I know of the relationships, I would sooner work with a professional man than with a layman. I agree entirely it would be extremely desirable to obtain these administrative positions and be directly responsible ourselves to our committees, but I question, for the time being, whether we are strong enough, though we may be ultimately.

With regard to the transference of the control of dairy inspection from the Local Government Board to the Board of Agriculture I have no very serious feeling. It seems to me there is some justification for it being under the control of the Local Government Board. It is a good many years ago now since I first got up to speak on this question—I think it was at the Sanitary Congress some twelve or thirteen years ago—and I said then that the profession should press for the appointment of a veterinary officer at the Local Government Board, and I think the profession should go on pushing until they secure what they require. At present I think it is only due to the fact that there is no veterinary officer there, that we cannot get the recognition we justly deserve. If you have a veterinary officer there, he would be in the same position as a whole-time veterinary officer working in a county, and act as your representative at headquarters, to explain matters from a veterinary point of view.

Some of the details Mr. Lloyd referred to are interesting, and one most important is the question of instituting a system of licensing instead of registration. There is no question of doubt in my mind that to secure proper control nothing short of licensing is necessary. Registration is a farce. It simply means that a man has to apply to the sanitary department of the district in which he lives, and they are compelled to register him, no matter what the conditions. After that they can

start to proceed against him under the Dairy and Cowsheds Order. In the county districts most of them are concerned in this particular business of farming, and the local Council are likely to be hard on their friends or, it may be, themselves.

Mr. Lloyd made a point also that I regard of very great importance, that is that the veterinary officers should prescribe the conditions of the housing of cows. I was in Staffordshire only this week, when a farmer showed me, with some pride, a new cowshed which had been built for him. I said, "How long has it been built?" He answered that it had been finished last summer. I then said, "Whoever built it deserves a public testimonial, because it is very nearly as bad as the dirty old place over the way." In the new cowshed there was not a single provision made for any drainage, and there was only one provision for light, which contained two small panes of glass, each about 12 in. by 8 in. If these are the modern conditions of alteration to property, can you wonder that when veterinary officers come down and find fault that the people who have to build these places resent it? Can you blame them? Later on, when the whole scheme of reconstruction comes forward, the man will have to reconstruct entirely, and thus do a lot of work twice. Certainly I agree with Mr. Lloyd in approving one feature of the new Milk Bill, that the cost of reconstruction should be on the landlord. There has been a tremendous amount of hardship imposed on the people who are the milk producers under the existing conditions. Many of these men, unfortunately for the general conduct of the business of dairying, are small men who live from hand to mouth, and whose financial reserve is practically nil, and they cannot afford to carry out extensive alterations.

Mr. Lloyd mentioned the large expense of administration of the Tuberculosis Order. I am not quite up to date with my information, but it seems to me that the expense of administration of this Order is nothing like so large as was contemplated. Of course, Mr. Lloyd has also pointed out how certain county authorities have carefully avoided their responsibility.

Most of the valuations made under this Order are left in the hands of veterinary inspectors, and I am bound to say that I think in many of the cases I have seen the valuations are grossly unfair, and are very much too low. I do not think the Board of Agriculture ever contemplated that the valuations should be kept below a fair scale, but they should not be in excess of a fair and square valuation. I will give you an instance of a case which cropped up a little while ago.

A cow under the first valuation was valued at £20 10s.; she was a big fat cow in excellent condition. The second valuation was £4 10s., that is, as a tuberculous animal. There may be some grounds for making a valuation like that, but I cannot for the life of me see how any practical man valuing a cow in the first instance at £20 10s. can assume from her condition that the tuberculosis was so extensive as to make her only worth the fraction of £4 10s. as a tuberculous animal. A great deal of resentment has been caused through this second valuation amongst owners, and I think a little more generosity in this direction would secure a good deal more co-operation, and be better for the administration of the Order.

I believe the Board hope some day to achieve the complete elimination of tuberculosis. I agree that at present it would be decidedly helpful to include all those animals which show active tuberculosis, but I think there are many cases which do not come under this Order which are decidedly infective, and which provide a good deal of difficulty in finding of bacilli in the discharges. I have in view a cow I have had under my observation for some time. She is a cow that has not

got tuberculosis of the udder, nor is she emaciated, but she has got tuberculosis of both lungs, well marked; of that I am confident. She has reacted readily to the tuberculin test, and yet we have not found tubercle bacilli in her discharges. My experience with these animals is that they suddenly collapse. You will find they hold their own for some time, and the disease does not make much progress, but a careful physical examination reveals what is going on in the lungs. I do think animals of that description should be brought within the purview of the Order and removed from contact with other animals.

Mr. MATTINSON: I should like to make some observations on the question of valuation. I do not know what the Board of Agriculture have in mind in advising that the valuation should be kept down.

I have just had a case in which a cow valued by the owner at £8, and £6 if tuberculous, actually realised £4 for beef.

In Preston some time ago there was great fear of the County Council appointing whole-time officers. Personally, I think a part-time veterinary inspector would not act (?) as a private practitioner as against part-time inspectors.

Apart from Mr. Lloyd's paper, I think if all part-time inspectors were to use tact and diplomacy the Orders of the Board would be carried out more efficiently.

Mr. SUMNER: I have had the honour of being inspector for the Borough of Bootle, adjoining Liverpool, and some of our ways and means are much on the same lines as theirs, only we have a definite inspection of all cows, udders, and dairies every three months. We have had that now for a great many years, and at the commencement of this inspection the number of cows with tuberculous udders, and tuberculous cows was something appalling. Now, I am pleased to say that the cowkeepers themselves are almost as jealous of having clean udders and clean cows as the veterinary inspector. They have tried all in their power to work with him as far as they possibly can, and I congratulate them and the borough on the improvement made.

The state of the shippens is looked after by the sanitary inspectors. They go round, and if I see anything objectionable in the condition of the shippens or the cows, all I have to do is to drop a postcard to the inspector to go round on a certain day, and he does it without any friction at all. Speaking about the friction between the private practitioner and the veterinary inspector, if there is another veterinary practitioner attending to the horses, we do not go to see them without first notifying their private veterinary surgeons and making an appointment at the same time.

Speaking about compensation, there are a lot of cowkeepers in the borough whose cows are in good condition and fairly valuable, and lots of them—taking them at double valuation—run to anything under £30, say £15 to £20. I have told them the conditions of the two valuations, and pointed out that if a cow proved to be tuberculous in any way they would only get three-fourths of the value of the carcase. Most of them, in fact all except one, have readily agreed to the conditions. One of our officers must go and see the cow before she is sent away, and they can see her killed.

Fortunately, in Liverpool, as a rule they get full compensation, which I think saves a lot of trouble and expense.

Mr. BRITTELBANK: May I just explain that I purposely made my remarks about keeping down the valuation in the vague way in which I did because I do not want to make any specific accusation against any authorities, but in the hope that the remarks made at this meeting may be brought to the attention of the officers of the Board of Agriculture, and dealt with by them.

Another point is of considerable importance in this Order, and that is the slaughtering of these animals in

certain districts. In most of the districts in which I work around Manchester I have a working agreement with the local veterinary inspector, so that I may be present at the post-mortem. It has occurred to me many times that far greater powers should be given to the local veterinary inspector to give a farmer permission to remove a cow to some recognised place for slaughter.

I have in mind a case which occurred a little while ago of an eminently respectable farmer—one of the best of fellows—just outside Manchester, who had a cow suffering from tuberculosis of the udder. It was necessary for me to make two visits to find out which cow it was. I was only able to do so by deciding she was in a certain group of eight cows, then taking a sample from each of the eight cows in that group, there being no cow which presented any suspicious udder symptoms of even the slightest character. We will agree that particular gentlemen had committed no very serious crime. An appeal was made on his behalf to allow him to take his cow to a knacker yard and have it killed there. The police insisted that the cow should be killed on the premises. I pointed out that he could defy the police and waive his right to compensation.

Another point: Such cows should not be slaughtered on the farms, but taken to the central places and slaughtered under proper conditions. I think this is a matter of some importance, to a farmer at any rate. Many of the men I have come in contact with have been treated as if they were criminals, and it is wrong.

Mr. BURDRED: I wish to congratulate Mr. Lloyd on his paper, especially as I have been associated with him in the past in this work.

There are two points which appeal to me specially in regard to valuation. In Manchester they value a cow from a beef standpoint, and it is a very unfair valuation to make. For instance, a dairy cow which may be worth anything up to £30 would not be worth more than £7 or £8 from a beef standpoint.

Mr. FLETCHER: I am pleased to hear Mr. Lloyd on this question. We know he is very good in doing anything—either individually or collectively—for the advancement of the profession.

In relation to the question of a man being able to send a beast to a slaughterhouse without having to go through any of the procedure of this Act, I think there will not be that interference which seems to exist at present. If a man is agreeable for the beast to be sent to some place to be slaughtered and is prepared to take all the risk himself, it would be a saving of expense to the local authority, and it would be an end to that particular beast spreading disease amongst cattle. Perhaps I am fortunate in regard to the police not going to the premises and becoming a source of annoyance to the owner. It does not exist with us, as the police leave it almost entirely to me to deal with cases of detention and isolation, and should it be a case requiring disinfection I notify the police, and they instruct a man, and the thing is done. There is not much trouble about that. Unfortunately, perhaps, it is only because the Act has not been in existence long, and as we are getting to know the cases of tuberculosis with emaciation, in a large majority there is no need to look for the line of demarcation. Of course, in making a preliminary report you have to say whether it is a case of emaciation or not at that time, and your compensation always should only be quarter value. It does not matter what lesions you find in your post-mortem, you only get your quarter value. But I have also taken a large number of cases without thinking of testing, and I have not yet had to regret having done so. I think Mr. Brittlebank said once before at a meeting, that with experience, as time goes on we should be able to diagnose to a great extent whether there is tuberculosis or not, and whether to use the tuberculin test. It means, of course, if you

go through the whole process and compare the cost of administration and valuation and what the farmer gets, one finds that the administration costs look rather heavy, and so, whatever I have been convinced that it is not necessary, I have not used the test.

There is a case Mr. Brittlebank mentioned about tuberculosis with discharges. It has struck me very often that we see very little in literature or in teachings about finding bacilli, when the lungs are affected, in the sputum of an animal coughing. I went to that trouble with one or two cases, and I was quite pleased that I was successful, and I slaughtered on that, and so proved that the lungs were very badly affected.

If we endeavoured a little more in these particular cases of lung affection I think we would be entitled to slaughter. I look upon it as a means of stopping the spread of disease amongst cattle and preventing it from spreading to the milk.

There is no doubt that we shall get some further powers, and with further experience, one feels that with the scope the Bill gives and with some general inspection, and if notification is not to be of the haphazard kind it is now, the better it will be for the Order.

Mr. HEYES: We have had a very good discussion on Mr. Lloyd's paper, and many will go away enlightened by the paper and the discussion. I am in agreement with the sentiments expressed regarding the necessity for some representation of our profession at headquarters. In my opinion many of the authorities, not only head authorities, but the subordinate authorities, deal in a way not acceptable to the case. They are unaware that there is a better course. The duty devolves upon us of expressing our opinions to those authorities through the medium of our representatives in the Council. It is obvious that the Local Government Board are not aware of the qualifications possessed very largely by veterinary surgeons to-day. For instance, they do not seem to recognise that there are many veterinary surgeons who are expert bacteriologists.

I am pleased to learn to-day that at Manchester the inoculation test is employed for the detection of tuberculosis. I think that in the administration of the Order we can show ourselves competent; there are many men thoroughly competent to carry out all that is required.

Recommendations have been made to the veterinary surgeons by various bodies about the means that ought to be adopted for the detection of the disease; for instance, microscopic examination, and Mr. Fletcher to-day has mentioned the tuberculin test. To my mind, whilst both of these examinations would greatly assist the inspector, yet it must often happen that a further examination is necessary, and that examination can only be made by a man who has made a speciality of bacteriological work. I know that many veterinary surgeons have qualified in this direction, and it should be known to the authorities who have to formulate the laws, and who draw up the lines on which we have to proceed, that veterinary surgeons are able to conduct all the tests which are necessary to detect this disease.

It has been mentioned here to-day that occasionally friction occurs between practising inspectors and other practising veterinary surgeons. Discourtesy on the part of inspecting veterinary surgeons does, I know, exist, and is brought into operation frequently. It does not assist in efficiently carrying out the work of inspection.

Mr. LLOYD: I have been somewhat disappointed, because I thought you would probably try to pull my paper to pieces with criticism, but it has been more of a pleasure than a disappointment to me that the discussion should have taken a very wide range of subjects, and certainly I think it has followed well upon the lines of the paper.

Mr. Brittlebank thought that we ought to get assistance from the Royal Agricultural Society. That has been in my mind all along, and I do not know how I

came to leave it out of my paper. I thought of it afterwards, and I feel that the veterinary profession should have gone to the higher powers and got them to work together; but, as Mr. Brittlebank has said, we are a young and rising profession, and we have to feel our way. I must insist upon this: it is no good veterinary surgeons being educated and taking up whole-time posts, and then to be placed in subordinate positions under health sanitary inspectors.

Professor Share-Jones has said that in Scotland the sanitary inspector is responsible to the health committee just as the medical officer of health is. I think I was right in saying that I do not expect the veterinary inspectors are going to get all they want, but we certainly ought to go for all we want. My position is this: every man to his own trade, just as the cobbler should stick to his last.

Mr. Brittlebank made a very useful suggestion in regard to the supervision of buildings, and I quite accept his view, not only as regards cows, but equally so in regard to all animals. In Sheffield we have horses kept in places not even fit for a fly. There is no doubt that the supervision of these buildings should be in the hands of someone who understands them. Architects putting up new picture palaces do not know much about cowsheds. In Sheffield the building surveyor under the city engineer gets the plan of a cowshed which is to be built, and sends it to the medical officer of health, and in that way we get fairly satisfactory results, and it is, I may say, a uniform way of dealing with cowsheds.

Mention has been made of the cost of administration in comparison with the cost of compensation. A recent case came to my notice where the cost of administration was above five times the cost of compensation, and they say it was a great hardship on the local ratepayers to have to find this money when the Exchequer have paid for one-half and nothing at all towards the compensation. If more were paid from the State we should get better results. In Sheffield the question of valuation and the working of the Order altogether, is left in the hands of the veterinary inspectors.

My method is to go to a farmer who has notified a cow with tuberculosis and emaciation, and I put it definitely to him what his cow was worth when she was in health. In the majority of cases I find he has not valued the cow as he ought to have done. If it is a cow worth £20 reckoned as a dairy cow, and if she has got marked tuberculosis of the udder, that cow is slaughtered under the Tuberculosis Order, and if the carcase is passed as fit for food, the compensation would be ten guineas—three-fourths of £14. In one case recently the compensation was £7 11s. 1d., and that amount was paid over to the owner of the cow; we got nothing of it.

Mr. Mattinson has mentioned the question of excess amount. If an animal makes more than the valuation the authorities, after deducting their expenses, must pay over that excess amount to the owner. Even if it is only a matter of, say, 5/-, the owner would be entitled to it.

Mr. Fletcher stated that he had not been so successful in dealing with microscopical examination of the discharges. Mr. Brittlebank gives an instance where he was unable to get it. I believe in Germany they go a good way towards finding tuberculosis in the discharges.

Mr. Sumner has mentioned about the quarterly examination of cows. I can quite bear him out in regard to the importance of this, and its benefit to the cow-keeper and the people who have to drink the milk.

Mr. FLETCHER: I must confess that Mr. Lloyd is wrong in regard to the question of administration expenses. The matter came before Parliament, and I feel convinced the reply was to the effect that they could not deduct any administration expenses from the sale of the carcase. It must go back to the owner.

Mr. WALKER: Mr. President and Gentlemen, I would like to propose a very hearty vote of thanks to Mr. Lloyd for bringing this excellent paper before us, and I am only sorry that the attendance has not been larger.

Mr. BRITTLEBANK: May I have the pleasure of seconding the vote of thanks? It is a subject which has concerned me for some time, and I always like to hear my old friend, Mr. Lloyd, on this evergreen topic.

Mr. J. P. HEYES (President) proposed, and Prof. Share-Jones seconded, the following resolution, which was carried unanimously, with the recommendation that copies of the resolution should be forwarded to (1) Local Government Board; (2) Royal College of Veterinary Surgeons; (3) Council of Royal Agricultural Society of England; (4) other veterinary societies.

"That this meeting of the Liverpool University Medical Society is unanimously of opinion that the lack of direct representation of the veterinary profession at the Local Government Board seriously retards the effective administration of veterinary work through the local authorities of this country, and respectfully, but strongly, urges in the best interests of public health, as affected by disease in domesticated animals, the institution of a Veterinary Department at the Local Government Board under the control of a veterinary officer who is a fully qualified veterinary surgeon as an immediate and urgent necessity."

Mr. BRITTLEBANK proposed, and Mr. J. Sumner seconded, a hearty vote of thanks to the President (Mr. J. P. Heyes) for his conduct in the chair.

A. WALKER, Hon. Sec.

VICTORIA VETERINARY BENEVOLENT FUND

The quarterly meeting was held at 10 Red Lion Square, London, on Thursday, Jan. 8th. There were present:—Messrs. R. C. Trigger, President; E. A. West, Chas. Sheather, S. Slocock, S. Wharam, G. Banham, J. Abson, W. Burt, W. Freeman Barrett, Nicholas Almond, F. W. Garnett, H. Sumner, and W. Shipley, Hon. Sec.

Apologies for absence were received from Prof. Penberthy, Messrs. J. Dunstan, and P. J. Simpson.

SECRETARY'S REPORT.

Arising out of the minutes of the last meeting, I have to report that I have investigated the position of all of the old recipients, and now recommend that the grant be continued to Mesdames B—, Y—, G—, G—, B—, C—, J—, T—, S—, P—, and M—.

Further investigations have been made referring to Mrs. R— and Miss H—, and I place the communications before you. Also the further correspondence with reference to Mrs. W—, and suggest that the grant in this case be increased to 10/- per week.

A fresh application has been received from Miss B—, since the receipt of which the Benevolent and Mutual Defence has made her a grant of 5/- per week for twelve months. A cheque for £1 has been sent for immediate relief.

A grant of £2 was made to the widow of the late Inkerman Drake, who died recently in great distress, to assist her in funeral and other expenses.

I have had correspondence from Mr. P. J. Simpson, referring to his kind donation of over £70. As no immediate opportunity occurs for carrying out his wishes to use the money for educational purposes, he has consented to the investment of the sum. This has been invested coupled with donations on hand. Advised by my co-trustees, Sir Stewart Stockman, and Mr. Garnett, we have been able to purchase £137 worth of 3½ per cent. Western Australia 1920-35 stock.

In presenting my list of new members I would call your attention to the handsome subscription of £5 5s.

from the Natal Veterinary Medical Association. I hope we may be able at the annual meeting to suggest some scheme by means of which we may have representatives in the Colonies.

With the approval of the President, extra grants at Xmas have been made to those widows who have children, the sum varying from £2 10s. to a widow with seven children, and £1 in the case of small families. This sum has, however, been amply met by donations received from friends in response to our President's Christmas appeal. As in previous years the sum of £2 each has been entrusted to two members of the profession to be expended for the comfort of our two old-age pensioners. I have no doubt you will approve that we have done everything we can with our small income to make Christmas a happy time for our old people, and the little children of our poor widows.

I am unable to present my balance-sheet, which, however, is not due until May. Roughly we have received—subscriptions £255, interest £96. Total £351. Our expenditure for relief has been £348, and for incidental expenses £22, making a total of £370. We have, therefore, overspent our income by approximately £20. If we could enrol more new subscribers we could raise our grants in practically every case to 10s. per week, otherwise this will not be possible for some time to come, though I am still hoping that we shall achieve it.

It is a matter of very great regret to me that we have sixteen outstanding subscriptions unpaid. I feel sure through inadvertence. I should, however, be glad if our subscribers would remember that I am only a struggling provincial veterinary practitioner, and the delay entails the expenditure of endless postage and extra work I can ill afford to give the time to. I should add I have four votes in the name of the Fund for the next election of the London Orphanage Asylum.

It was decided to discontinue the grants to Mrs. R. and Miss H.

The grants to all of the old recipients were again considered, and it was unanimously decided to continue the remaining grants for three months pending further consideration.

The SECRETARY was instructed to write a letter to the Natal Veterinary Medical Association suggesting the formation of a local Colonial Sub-committee to forward the objects of the Fund.

*New Subscriptions and Donations received since
October last.*

	£	s.	d.
Collings, R. J., Exeter	10	6	
Blackwell, W. E., Towcester	10	6	
Bate, Alf., Ellesmere	1	1	0
Blunson, W., Cirencester	1	1	0
Edwards, Major, Canterbury	2	2	0
Boyd, W. J., Ledbury	10	6	
Warburton, F. S., Liverpool	10	6	
Broad, J. & S. S., Paddington	1	1	0
Howatt, J., Londonderry	10	6	
Shilston, A. W., Maritzburg, S. Africa	1	1	0
Allen, C., Dublin	1	1	0
Beckett, A. J., St. Alban's	10	0	
Kidd, Wm., Wolverhampton	1	0	0
Wilkinson, C. G., Newcastle	2	2	0
Rutherford, Col., Salisbury	1	1	0
Natal Vety. Association	5	5	0
West, E. A., London	5	5	0
Trigger, R. C., Newcastle	1	1	0
Thompson, Hy., Aspatia	1	1	0
Grigson, Geo., Downham	1	1	0
Young, Wm. Jackson, Edinburgh	1	0	0
Villar, S., Harrow	1	1	0
Verney, Capt., Canterbury	1	1	0

W. SHIPLEY, Hon. Sec.

NORFOLK

VETERINARY INSPECTORS ASSOCIATION.

The annual meeting took place at Norwich on Jan. 24th.

The SECRETARY first presented his report and balance sheet for 1913, the latter showing a deficit of £1 9s. 8d. Subsequently it was decided to make a levy of 1/6 per member as well as the annual subscription of 2/6 to make up for the deficiency.

The following officers were elected for the ensuing year :—

President. W. SHIPLEY, Esq.

Committee. Messrs. LOW, HOLL, BANHAM, and STANDLEY.

Hon. Secretary. WILFRID WATERS, Blofield.

W. WATERS, Hon. Sec.

DISEASES OF ANIMALS ACTS, 1894 to 1911.

Return showing the number of Premises on which the existence of TUBERCULOSIS has been notified to the Board of Agriculture and Fisheries during the month of January, 1914.

ENGLAND (Counties) *		ENGLAND (continued) *	
Bedford	2 2	Westmoreland	3 3
Berks	2 2	Wilts	22 22
Buckingham	2 3	Worcester	8 8
Cambridge	2 2	York, East R.	6 6
Isle of Ely	1 1	„ North R.	5 7
Chester	31 33	„ West R.	35 36
Cornwall	6 6	WALES.	
Cumberland	5 9	Anglesey	9 9
Derby	24 24	Brecon	1 1
Devon	11 11	Carmarthen	2 2
Dorset	1 1	Carnarvon	3 3
Durham	3 3	Denbigh	3 3
Essex	7 8	Flint	4 5
Gloucester	11 11	Merioneth	3 4
Hertford	4 4	SCOTLAND.	
Huntingdon	2 2	Aberdeen	15 17
Kent	5 5	Argyll	6 6
Lancaster	46 47	Ayr	17 18
Lincoln, Holland	1 1	Berwick	1 1
„ Kesteven	4 4	Caithness	2 2
„ Lindsey	7 7	Dumfries	3 3
London	3 4	Fife	2 2
Middlesex	5 7	Forfar	5 5
Monmouth	1 1	Kincardine	1 1
Norfolk	5 5	Kirkcudbright	4 4
Northampton	2 2	Lanark	16 16
Soke of Peterboro'	1 1	Midlothian	
Northumberland	1 1	(ex City of Edin.):	2 2
Notts	9 9	City of Edin.	4 4
Oxford	1 1	Perth	2 2
Salop	9 9	Renfrew	8 8
Somerset	5 5	Ross & Cromarty	2 2
Stafford	30 32	Selkirk	1 1
Suffolk	3 3	Stirling	2 2
Surrey	4 4	Wigtown	6 6
Sussex, East	4 4		
„ West	3 3		
Warwick	6 6	TOTALS	472 494

* Number of bovine animals suffering from tuberculosis of the udder, tuberculosis with emaciation, or giving tuberculous milk, in respect of which notice of intention to slaughter has been received.

DISEASES OF ANIMALS ACTS 1894 to 1911, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.		Out-breaks	Slaughtered.*
	(a)		(a)		(b)		(b)		(b)	(a)	
GR. BRITAIN.											
Week ended Jan. 31	21	21			2	2	86	211	19	57	378
Corresponding week in											
{ 1913 ...	10	10			2	11	75	173	12	29	278
{ 1912 ...	30	37					126	246	14	72	723
{ 1911 ...	24	26			5	6			28	31	252
Total for 5 weeks, 1914	98	102			9	26	418	859	77	237	1882
Corresponding period in											
{ 1913 ...	60	71			15	70	422	1010	57	175	2280
{ 1912 ...	122	139			12	31	774	2037	77	301	3263
{ 1911 ...	109	122			23	69			151	172	1775

(a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked: London 1. Suffolk 1.
Board of Agriculture and Fisheries, Feb. 3, 1914

IRELAND.	Week ended Jan. 31	...	...	1	20	...	...	Outbreaks 3	33	4	20
Corresponding Week in											
{ 1913 ...	...	...	...	...	...	...	...	12	12	...	25
{ 1912 ...	...	...	...	...	...	...	...	3	24	2	8
{ 1911 ...	1	1	...	...	...	...	...	3	20	2	4
Total for 5 weeks, 1914	...	...	1	20	...	...	17	118	15	94	
Corresponding period in											
{ 1913 ...	...	...	...	...	...	...	49	39	24	124	
{ 1912 ...	1	1	...	...	...	...	11	110	13	154	
{ 1911 ...	2	2	...	...	...	...	11	116	19	285	

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Feb. 2, 1914.
NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

The Outbreak of Foot-and-Mouth.

The Board of Agriculture and Fisheries received information on Saturday, 31st Jan., that an outbreak of foot-and-mouth disease had been confirmed near Naas, County Kildare, Ireland, by the Department of Agriculture and Technical Instruction for Ireland. Further, that the Irish Department were scheduling an area of approximately 15 miles radius round the infected farm, and would proceed with the slaughter of the animals thereon. As a preliminary measure that Department had also instructed their Port Inspectors to allow no shipments of animals to Great Britain until further notice.

After considering the position the Board decided that the circumstances would warrant permission being given for the landing of animals for slaughter within the landing place from all ports in Ireland other than Dublin, from which port no shipments of animals could with safety be allowed for the present owing to the proximity of Dublin to the disease centre, and the trend of the trade from Kildare. An Order to this effect was issued the same afternoon, and arrangements were at once set on foot for tracing to their destination in Great Britain all animals that had been shipped to Great Britain from Dublin within the past fourteen days.

Fifteen cattle in one herd were found affected in the outbreak first reported. The cases were first diagnosed by two local veterinary surgeons. On Sunday morning a police telegram from Ballysax intimated that the disease had been detected amongst some pigs in that locality. Nineteen were at once ordered for slaughter, as were all sheep and cattle on the farm.

One serious result of the outbreak is the postponement of the show and sale of pure-bred bulls under the auspices of the Royal Dublin Society, at Ballsbridge, which was to take place Thursady, Feb. 5.

As yet the Department are unable to state how the disease originated.

No fresh cases of foot-and-mouth disease have been reported to the Irish Department of Agriculture from County Kildare, and the Department is confident that the measures adopted to check the spread of the disease have proved effective, and that it will be possible to keep it within the limits of the scheduled area.

Compensation under Tuberculosis Order.

At Loughborough County Court on Tuesday, January 20th, before his Honour Judge Wightman Wood, John Bull, farmer, Long Wharton, sued the Leicestershire County Council for £5 in respect of a cow which, it was alleged, was slaughtered by order of the Council's veterinary inspector under the Tuberculosis Order, 1913.

Mr. C. A. McCurdy, M.P., (instructed by Messrs. Clifford and Cliffords) was for plaintiff, and Mr. Wilfred Moss for the defence.

Mr. McCurdy said the questions to be determined would not be so much questions of fact, but depended on the consideration of somewhat unusual points of law. The Tuberculosis Order, 1913, gave local authorities power to inspect animals suspected of tuberculosis, and to condemn and pay compensation. Section 2 provided that if an owner had an animal he suspected, he was to

give notice to the local authority. Section 4 (1) provided that when the authority got the notice they should send a veterinary inspector to make an examination to see if tuberculosis existed. Section 4 (5) provided that the inspector was to report to the authority the result of his examination; and Section 5 (1) provided that when the inspector had reported, the authority was to give notice to the owner causing the animal to be slaughtered, but if the owner objected he had the right of appeal. The point of the last two sections was that it was not for the inspector to cause the animal to be slaughtered, but it was his duty to report to the local authority, who had to serve notice on the owner. Section 6 provided that if the animal was slaughtered the value was to be agreed upon, and under Section 7 the carcase had to be examined by the veterinary inspector, who had to give the authority a certificate of the result. Section 8 provided as to the compensation.

The County Council issued to farmers a general notice purporting to give information as to the provisions of the Order, but omitting altogether the provisions of Sections 4 (5) and 5 (1), so that the procedure under the Act appeared to be that the inspector was to inspect and cause to be slaughtered, and that after slaughter compensation would become payable. The circular did not suggest that the inspector had to report to the local authority.

The facts were that this Order came into force on May 1, and on June 9 plaintiff, who had received a copy of the notice, was in doubt as to whether a cow that was very emaciated might not be suffering from tuberculosis. He first spoke to Mr. Porter, a member of the County Council, and in consequence of his conversation he gave notice in pursuance of Section 2, to the police. Then he received a postcard that Mr. Parr, the County Council's veterinary inspector, would call. Mr. Parr called on June 12, when plaintiff was not at home, and saw his son Richard. Mr. Parr made no physical examination, but looked at the cow and said there was no doubt what it was suffering from. He then asked Richard Bull what they generally did in the case of screws, and Bull said they sent them to a knacker named Blankley. Mr. Parr asked if he thought they would get 30s. from Blankley, and when Bull said he thought they would, he said they had better send it to Blankley. This was reported to plaintiff, who sent the cow to Blankley, and it was slaughtered.

A postcard came from Mr. Parr asking if the cow had been slaughtered, and later he made a post-mortem examination, and found the cow entirely free from tuberculosis. When plaintiff applied to the County Council for £5 compensation, the answer was that the cow was not slaughtered by Mr. Parr's instruction, and therefore no compensation was payable. Subsequently Mr. Parr told plaintiff it was a mutual understanding between him and the son that the cow should be slaughtered, and not an order.

The grounds on which Mr. McCurdy submitted plaintiff was entitled to recover was that Mr. Parr went to the farm with his assistant in a purely official capacity for the express purpose of pronouncing on the condition of the cow. Under those circumstances a farmer would, of course, consider he was bound to attach the greatest importance to his statement. Plaintiff was, therefore, entitled to regard the conversation as amounting to an order to have the cow destroyed. But even assuming that it was not an official order, and merely a mutual agreement, Mr. McCurdy submitted that the statement that there was no doubt as to what the animal was suffering from amounted to a warranty, which became a term of the agreement. The County Council had, in fact, abbreviated the procedure under the order for their own convenience, and if in this abbreviated procedure they made a mistake plaintiff ought not to be in

a worse position than if the full procedure had been gone through.

Evidence on the facts as stated by council was given by plaintiff, who said he gave £17 for the pair of heifers, of which this was one. Blankley gave him 20s. The cow was not valued before slaughter. Witness said he had read the circular through carefully. He considered the animal was worth £8, but Mr. Porter asked him to make the claim as low as he could, and that was why he claimed £5.

His Honour: To save the ratepayers?

Richard Bull, plaintiff's son, said Mr. Parr told him there was no need to examine the cow, as it was certain she had got tuberculosis. He gave witness his visiting card to send to Blankley for him to let Mr. Parr know when the animal was killed, so that he could examine it. Witness denied that he told the inspector it would have been killed if it had not been for the order. He told witness it would cost a lot to have it tested, and it would be cheaper to have it killed.

William Edge Porter, farmer, Dishley, a member of the County Council and of the committee administering the Tuberculosis Order, said they found the cost of carrying through the procedure of the Order was very heavy, probably £5 for each beast. The inspector, Mr. Parr, had from time to time reported that he had been able to make friendly arrangements with farmers in the case of suspected beasts that the animals should be slaughtered without going through the expensive procedure of the Order.

Mr. Moss said it was a rather remarkable position for the witness to be giving evidence against the body of which he was a member, and disclosing matters of privilege.

Mr. McCurdy said it was a question of authority. The second ground of claim was that acting with the authority of the Council Mr. Parr had entered into an agreement to abbreviate the procedure to dispense with the expensive valuation before slaughter.

Witness added that Mr. Parr had authority to make such arrangements, and had done so in many cases.

Fred Blankley, slaughterer, Loughborough, said he did not consider there was anything the matter with the cow when he slaughtered it. It went to London.

Mr. Moss: Why did you sell her for cats' meat if there was nothing the matter with her?

Witness: I was told to kill her.

Mr. Moss submitted that the conversation with Mr. Parr was not to be construed as an order, and that he never made any statement as to what the animal was suffering from. It was clear from clause 6 of the circular that before slaughter there was to be agreement as to the value, or failing agreement, the value was to be ascertained. No matter what misleading message plaintiff's son gave to his father, for which the defendant's were not responsible, Mr. Bull ought to have known that there must be agreement as to value before slaughter, and there having been no such agreement, there must have been doubt whether the order was being put in operation. The practice of arrangement with farmers for slaughter was adopted in other counties, and was approved by the Board of Agriculture. The objects of the Order were attained if the farmer did away with the beast himself, and it gave the farmer the opportunity of getting rather more for an animal than if it was dealt with under the Order.

John Geo. Parr, consulting inspector to the County Council, said when he saw the cow he said it was in a shocking state, but he never said it was suffering from tuberculosis. He explained the order to young Bull, and said if he could make more than 30s. for the animal he was at liberty to have it killed and make what he could. Witness also said he would like to make a post-

mortem so as to know what was the matter with the cow.

Richard C. Moore, assistant to the last witness, said he made a post-mortem examination, and found the cow had suffered from a disease of the bowels which was bound to prove fatal. There was no tuberculosis.

JUDGMENT.

His Honour said the procedure under the Order involved a great deal of trouble and expense, and in the interests both of the farmers and ratepayers the County Council desired to make arrangements which would obviate the expense. It was the duty of Mr. Parr, if he could, to avoid the expensive processes of the Order, and that put him in the position of a person skating on thin ice. He might have brought it very clearly to the knowledge of the persons on the farm, and might have thought he was doing so, but he rather overlooked the fact that he was not talking to a veterinary surgeon, or a medical man, or even a lawyer, and not even to the farmer, but to his son, and the question was what was the effect made upon that man's mind by what was said. He had come to the conclusion, his Honour said, that the impression left on the son was that the opinion of the veterinary inspector was that the report his father had made that he believed he had a tuberculous animal, was correct, and it was necessary it should be slaughtered, and that in effect he was receiving a direction from the inspector that the animal was to be slaughtered. He (the Judge) could understand the distinction in Mr. Parr's mind between carrying out the Order and making an arrangement outside the Order, but he did not think he sufficiently brought that home to the young man. What was said was taken to be a representation that in the opinion of the inspector the animal was tuberculous and must be slaughtered. That representation was unintentional, but the farmer acted upon it, and to his disadvantage, and therefore he was entitled to succeed in the action. But as to the damages, his Honour continued, he accepted the evidence that the animal was in a shocking state, and that its value was very small. But it was bought and killed and sent away under the idea that it was tuberculous, which it was not. Diseased as it was, it would have fetched more than it did if it had not been sold as tuberculous. Plaintiff had received £1, which must be credited, and judgment would be for £2 2s.

On Mr. McCurdy's application, costs were entered on a higher scale.

Purchase of Army Horses.

The following official statement was issued by the War Office at the end of last week:—

The Secretary of the War Office wishes to correct certain notices which have recently appeared in the Press, stating that the Army Remount Department is under reorganisation, and professing to give particulars as to the numbers of officers about to be appointed to act as district remount officers. A separate department for horse purchase is not being organised. This work will continue to be carried on by special officers, and on the lines hitherto followed, except that, in order to satisfy a demand that purchases should be made direct from breeders, it is in contemplation to send officers to suitable localities on advertised dates, to see such horses as may be offered, and purchase those that are suitable.

For the purposes of the military horse census of the United Kingdom, it is proposed to employ district remount officers in place of adjutants of Territorial units as hitherto. Not more than eighty-five such officers would be appointed, and selections to fill all the vacancies have already been made provisionally, and there is a long supplementary list of qualified applicants.

Royal College of Veterinary Surgeons.

FELLOWSHIP DEGREE.

A meeting of the Board of Examiners for the Fellowship Degree was held at the College, 10 Red Lion Square, W.C., on Saturday, Jan. 31st, 1914. The following is a list of the successful candidates, together with the titles of their respective Theses:

- RICHARD FINCH,
"Milk: Its Diseases and Contaminations."
S. J. MOTTON, "The Surgical Sequelæ of Parturition in the Mare and Cow."
W. T. BROOKES, "The Ante-mortem and Post-mortem diagnosis of Bovine Tuberculosis."
Capt. G. B. C. REES-MOGG,
"Ovariectomy of the Domesticated Animals."
CHARLES HARTLEY, jun.,
"Bier's Hyperæmia in Veterinary Practice."

The Examiners were Prof. J. Macqueen, Messrs. J. Malcolm and W. Woods; Mr. W. J. Mulvey in the chair.

FRED BULLOCK, Secretary.

The Shetland Sheep Dog.

The tiny ponies of Shetland are world-famous; but there is a variety of dog which is also indigenous to the island. The Shetland dog is really a collie, and it was originally known by that name, but when during the "fancy" progress of the breed it was desired to register it at the Kennel Club, fanciers of the large collie rose up in arms against any other breed being known as a collie, even with the distinctive adjective of "Shetland." A compromise was then come to, and the breed is now known as the Shetland sheep-dog. Two specialist clubs look after its interest—The Shetland Sheep-dog Club, with its headquarters in Lerwick, and the Scottish Shetland Sheep-dog, the secretary of which resides in Dundee. It seemed that until recently the Shetland sheep-dog was in danger of being ruined as a popular fancy animal by a restriction in the standard of the clubs, which said that the height of this canine "must not exceed twelve inches." This was leading to the dog being bred so small as to be useless for anything but a lap dog. Lately, however, a new standard was drawn up, which says that the ideal height is twelve inches, thus doing away with the maximum. The Shetland sheep-dog has any amount of pluck, and though primarily intended for herding small sheep, is quite useful for working cattle and sheep of the ordinary standard sizes. It is found in all the recognised collie colours.

Personal.

Mr. H. SMITH, M.R.C.V.S., of Worthing, was returning from Durrington on Friday evening, 30th ult, with his groom, and on reaching the end of Shady Lane, facing Broadwater Green, they apparently failed to turn sharply enough to avoid the railings surrounding the Green, with the result that the horse pulled the trap over on to the turf, throwing both Mr. Smith and his man out on to the grass. Both Mr. Smith and his groom were badly shaken, and the latter had several nasty cuts on the face, but fortunately no bones were broken. A motor was obtained, and they were conveyed to their respective residences, where they were attended by Dr. Lockwood. The horse escaped practically uninjured, but the trap was badly damaged.

HATT—LAWRENCE.—On the 31st Jan., at St. Saviour's Walton Street, Upper Chelsea, by the Rev. W. Lawrence Waugh, Vicar of Chiseldon, Wilts., Richard W. Hatt, of East Ilsley, Berks., to Mary Emily, widow of Edward Lawrence, M.R.C.V.S., of Swindon and Badbury, Wick.

Hunting Memorial Fund.

Subscriptions received up to 7 p.m., Feb. 4th, 1914.

	£	s.	d.
Amount previously acknowledged	195	16	6
Mr. F. Ware, I.C.V.D., Vepery, India	1	1	0
William Awde (F), Stockton-on-Tees	1	1	0
V. de V. H. Woodley, I.C.V.D., Rawal Pindi, Punjab, India	1	1	0
Jas. W. Baxter, 16 Halsey Street, S.W.	1	1	0
A. W. Noel Pillers (F), Corporation Stables, Liverpool	1	1	0
C. E. Wells, 14 Leman Street, E.	1	1	0
Ralph Bennett (F), Romford	1	1	0
West of Scotland Veterinary Medical Association, per W. Geo. Weir, Hon. Treas., Pollokshields, Glasgow	2	2	0
Mr. R. Chrystal Irving (F), 5 Halkin Pl., S.W.	10	10	0
Spen Kitto, 5 Halkin Place, S.W.	1	0	0
Messrs. J. Lyons & Co., Cadby Hall, Kensington	5	5	0
Mr. John Dunstan (F), Liskeard, Cornwall	1	1	0
	£223	1	6

HENRY GRAY, Hon. Sec. & Treas.

23 Upper Phillimore Place, London, W.

Cheques endorsed "Hunting Memorial Fund" and crossed "The London, City and Midland Bank, Ltd."

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, Feb. 3.

REGULAR FORCES. ARMY VETERINARY CORPS.

Lieut. P. D. Carey is seconded for service with the Egyptian Army. Dated Dec. 16, 1913.

SPECIAL RESERVE OF OFFICERS.
ARMY VETERINARY CORPS.

Lieut. (on probation) R. S. Little is confirmed in his rank.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

T. Bagshot to be Lieut. Dated Dec. 16, 1913.

OBITUARY

GEORGE B. LANGRAN, M.R.C.V.S.

Graduated, Edin: May, 1889.

Mr. Langran died on Jan. 17th at Newbridge, Co. Kildare.

ALEX. W. MACKEAND, M.R.C.V.S., 8 Bank Street, Wigtown.
Glas. July, 1884.

Death occurred on Jan. 26th, from sub-acute rheumatism. Aged 52 years.

J. H. HULSEBERG, M.R.C.V.S., Southsea.

London: Dec., 1897.

Mr. Hulseberg, eldest son of Lieut. Col. J. W. Hulseberg, A.M.D., died on Feb. 2nd, at University College Hospital, from meningitis, after many years of great suffering, in his 46th year.

CORRESPONDENCE.

THE MOTOR TAXES.

Dear Sir,

Much has been written, and no doubt more has been thought of the mode of procedure to obtain recognition as medical practitioners and the privileges enjoyed by them, but nothing has been done. I suggest that every veterinary surgeon shall now send a letter of the nature of the one enclosed to his representative in Parliament, and on the principle of weight will tell, we should get beneficial results. This is a practical suggestion, and I shall be glad to hear a better course to adopt, but "Let's be up and doing."—Yours faithfully,

TOM. B. BINDLOSS.

[Copy.]

The Warren,
Long Sutton, Lincs.,
January 26th, 1914.

The Hon. F. McLaren, Esq., M.P.

Sir,—May I remind you that the Tuberculosis Order of 1913 has been in force for nearly twelve months, and when the report on the year's work is presented it will show that much has been done to terminate the sufferings of animals affected with "advanced tuberculosis," and thus have checked the spread of the disease.

As a natural sequence the risk of infection from animal to man has been lessened, and I think if you consider the matter you will agree with me in the opinion that this is a favourable opportunity for acknowledging the fact that veterinary surgeons, by reporting all cases coming under their notice, have been the principal means of securing the success of the Order.

May I suggest that you recognise these services by proposing or supporting a measure, extending to all members of the Royal College of Veterinary Surgeons those privileges respecting motor taxes, petrol rebate, and exemption from jury service now enjoyed by members of the Royal College of Surgeons and general medical practitioners. By so doing you will perform a gracious act of recognition of services rendered and somewhat recompense a profession seriously affected, financially, by the change from horse to motor traction.

Hoping that you will carefully consider the matter, I remain, sir, yours faithfully,

TOM. B. BINDLOSS, M.R.C.V.S.

PRESCRIPTIONS.

Sir,

The enclosed cutting from a weekly agricultural paper shows that we need be careful in giving details of treatment that we find successful.—Yours,
RUSTIC.

CANKER IN HORSES.—In your issue of December 26, 1913, I note "Canker in Horses." I have a cart mare, nine years old, with two hind feet which I should be very pleased to cure. Will you please send me the vet's address that I may write to him?—W.

[*.* If you wish to try the special treatment that he recommends in *The Veterinary Record* of November 29, 1913, you must put the case into your veterinary surgeon's hands, as the writer refuses to answer any particulars except from a qualified veterinary surgeon. He also says that canker is a disease which requires expert treatment, and he is unwilling to publish his methods, as he considers veterinary surgeons only are capable of properly carrying out the treatment. I have asked permission to publish them, but he refuses it. If you do not care to put the matter into the hands of a vet., write me fully as to the extent and duration of the disease and the remedies tried, and I will advise the best treatment to try. Sorry we cannot reply by post. —WENTWORTH.]
Farm, Field, and Fireside.

Communications for the Editor to be addressed 20 Fulham Road, London, S.W.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1336.

FEBRUARY 14, 1914.

VOL. XXVI.

UNQUALIFIED OPPOSITION.

The "Registered Existing Practitioners," whose opposition was so formidable to us thirty years ago, are now rapidly dying out. Roughly speaking, at one time there was about one registered man to every three qualified ones: to-day the proportion is only about one to seventeen. The number of registered men remaining on the list is now little more than 200; and, as it is certain that not a few have retired from practice, the number in actual work may be confidently set down as something well under 200. All produced evidence of having been in practice since 1876, so their decrease must soon become more rapid. Ten years hence few will be left in active practice, and their opposition will be hardly worth mentioning.

On the other hand, most experienced practitioners will agree that opposition from men who are not even registered is on the increase. These men are a heterogeneous body; and a long essay would be necessary to analyse the different classes and their sources, and to consider the methods of dealing with them. At present we can only touch upon one or two points.

We cannot hope to exterminate unqualified practitioners legally—the law will never do more than prevent them from assuming our title. We may do something to limit their numbers and their effectiveness; our Council's recent decision to suppress the employment of unqualified assistants by veterinary surgeons will ultimately have much effect in this direction. Very many of the most successful unqualified practitioners, including many registered men, were originally unqualified assistants, and the Council's action will deprive such men of their best training ground. The effect will not be very perceptible for a long time, but so many living qualified men have helped to manufacture the present unqualified opposition that we have little right to be impatient.

Again, there are directions in which we might do more to meet unqualified men on their own ground. Castration, especially of farm stock, is largely left to unqualified men—in many districts a veterinary surgeon willing to do it can hardly be found. Consequently, castrators are more common than need be; they usually attempt general practice, and they find endless opportunities of winning over the actual clients of veterinary surgeons. Castration is neither pleasant nor in itself very lucrative work, but there are many districts in which a member ready to do it may easily transform a poor practice into a good one.

A fuller examination of the subject will show many points in which we ourselves have been, at least, a little at fault.

FRACTURE OF INCISOR TEETH IN THE HORSE.

The necessity for removal of the permanent incisors occurs but seldom. It is a peculiarly satisfactory operation inasmuch as it is one of the few equine dental procedures in which one can, with safety to the patient, use a general anaesthetic. The following may be of interest:—

History. A cavalry horse during an exercise was kicked in the mouth by another horse, causing an incomplete transverse fracture of the upper central incisors close to the alveolar margin, and exposing the pulp. The teeth were driven back towards the roof of the mouth. The lips were not involved in the injury. Extraction was decided upon.

Operation. The animal in the recumbent position was anaesthetised. The chloroform muzzle being removed, a roll of absorbent wool with its ends well projected was placed across the bars of the mouth to soak up blood and dressing. The jaws were then fixed by winding a webbing around the muzzle. Having cleansed the surgical area, the head was propped up with the usual straw-stuffed sack, and the operation commenced. The gum and mucous membrane was removed as far back as was necessary, and the periosteum scraped away with a curette. The anterior alveolar plates of the two teeth were then cut out with a $\frac{1}{2}$ in. cold chisel exposing the whole length of the fangs; prising up the teeth thus exposed was simple. It only remained to trim and smooth the sides of the sockets and the alveolar septum, snip off the fragments of mucous membrane, flush out with warm 1-1000 Potass. perm. sol., and the task was completed.

It is to be noted in passing that the use of extraction forceps for the permanent incisor teeth of any but very old horses is laborious, and the effort may even prove futile.

The complacency of the animal in this case, both before and after the operation was striking. He was not troubled, as is the unfortunate human in similar circumstances, by the thoughts of æsthetic dentistry to come.

I am indebted to M. Louis A. Merillat's "Animal Dentistry" for the simple and concise description contained therein of this operation.

J. R. HODGKINS. F.R.C.V.S., Capt. A.V.C.

Dublin.

THE TREATMENT OF EPIZOOTIC ABORTION IN LARGE HERDS.

In acknowledging the numerous communications I have received in reference to my article on "Epizootic abortion in dairy herds," which was published in *The Veterinary Record*, Oct. 4th, 1913, I can assure my correspondents that it will be a duty and a pleasure for me to supply, as far as my ability will enable me, all the information which has been asked for.

The lines of treatment suggested in my article are only suitable for extensive outbreaks of epizootic abortion in dairy herds, and are too expensive for single cases on dairy farms.

In reference to the leading questions, the following are my suggestions:—

(1) "I have always removed the placenta mechanically, but if there is a better way, I should like to know?"

For eight years I was engaged single-handed in one of the largest cattle practices in the world, and certainly the largest in Australia. These were my methods:—

If the case was only a short distance from my headquarters, after removing the foetus, the uterus was irrigated with a bucketful of warm water (about 100° F. to which was added a small quantity of Tincture of iodine. A large funnel and six feet of $\frac{3}{4}$ -in. rubber hose form a necessary part of the outfit required in a cattle practice. The addition of iodine has a twofold object, (1) it is a good antiseptic, (2) it prevents the cow eating the placenta, thereby removing all doubt that the afterbirth has been expelled. A dairyman having a herd of over 100 cows cannot afford the time to note if the newly-calved cow has expelled the placenta or not.

In cases a long distance from headquarters the afterbirth should be removed after the delivery of the foetus, this obviates all risk of having to make a second visit to the recently calved cow.

(2) "How long after parturition do you use the irrigation for retained placenta?" In the summer one day. In the winter two to three days.

(3) "How often do you irrigate to remove a retained placenta?"

In such cases I fill the uterus with a hot aqueous solution of 1 per cent. carbonate of soda, commercial, i.e., washing soda. This loosens up the membranes, and by its weight causes the cow to exert an expulsive effort. In the majority of such cases all the membranes come away at once; provided there is no decomposition of the placenta, no further treatment is required. Should the membranes be retained after such an irrigation of the uterine cavity, it is to be anticipated that they are retained through being wound round the maternal cotyledons, or adherent to the walls of the uterus. The correct procedure in such cases is to remove the retained placenta by mechanical means, bearing in mind that the first principle is that the maternal cotyledons must not be injured, lest there be absorption of sepsis which may accompany such cases.

In the removal of the placenta from the uterine walls, the fingers and short finger nails only should be used, no surgical instruments are admissible; should the membranes be wound round the maternal cotyledons great care should be exercised, and they should be removed in the manner which one exerts in undoing a button of a garment. Should there be a septic condition of the contents of the uterus, before their removal liberal irrigation with hot water and iodine should be adopted. After the membranes are removed another flushing is required; if the uterus has lost its tone, and does not expel the contents, it is necessary to use the hose as a syphon, and remove all the fluid from the uterine cavity with a clean sponge. If the first manipulation is done in a thorough manner further exploration

is not necessary; flushing with hot water and iodine once a day is all that is required until the uterus is in a normal condition. Under such conditions the following must be remembered:

The long limb of the hose, when using as a syphon, should be filled with solution before the short limb is placed in the uterus.

The hose requires to be guided by the hand when entering the os uteri.

Clean hands and arms are necessary in such manipulation. Although the uterus and the membranes are in a septic condition it is not necessary to add a new strain of micro-organisms by hands and arms which are not clean enough to be beyond suspicion.

Cuts and scratches of the hands and arms should be treated with liniment of iodine. Many obstetricians in veterinary practice have regretted not adopting this necessary precaution.

When called in to treat a cow, in my outfit are a 6ft. length of three-quarter inch rubber hose, a funnel, a light hard wood mouth gag with a hole in its middle large enough to pass the hose through, and a blocked saline purge. If the cow requires a purge, the blocked saline purgative powder is added to three-quarters of a bucket of hot water and well stirred, the mouth gag is fixed in the mouth by means of a strap with buckles on both sides placed behind the horns and ears, while straps over the nose and under the lower jaw keep it in position. The end of the hose is passed through the hole in the gag to the back of the mouth, then gently pushing it into the oesophagus, making sure that it has not entered the trachea by feeling its passage along the jugular furrow on the left hand side of the neck, then pass into the entrance of the rumen. An eructation of gas will be an indication that the hose has entered the rumen. The hose in position, fix the funnel in the other end and pour in the contents of the bucket from an elevated position, i.e. by standing on a box. The same hose and funnel can be used for the irrigation of wounds, flushing out the uterus, the administration of rectal injections, as a syphon to remove fluids used in flushing out the uterus, and for irrigating and syphoning medicated solution from the stomach in cases of poisoning.

J. DESMOND, V.S.

Adelaide, South Australia.

ABSTRACTS FROM FOREIGN JOURNALS.

POISONING OF CATTLE BY INSECT BITES.

In the district of Neustadt, Hanover, in the season of pasturage of the year 1911, numerous cases of illness in cattle occurred as a consequence of the bites of the fly *Simulium ornatum*.

The affected animals suddenly refused food, and showed a tottering gait. Soft painful swellings, warmer than the surrounding tissues, appeared upon the throat, neck, udder, and the inner surfaces of the thighs. In some cases, a bloody nasal discharge was seen. Out of 60 cases, 33 were fatal. Some animals died after only one or two hours' illness, others not till after from twenty-four to thirty-six hours.

Post-mortem examination showed well-marked saturation of the skin subcutis, punctiform hæmorrhages in the muscles (which were black-red in colour), serous effusions in the pleural and peritoneal cavities and in the pericardium, punctiform hæmorrhages under the parietal pleura and peri-

toneum, and upon the endocardium and epicardium, and an opaque appearance of the liver and kidneys. The spleen was either unaltered or swollen. The cardiac muscle was black-red in colour, and punctiform hæmorrhages were seen in it. The ventricles were tensely filled with black-red and imperfectly coagulated blood.

In animals that were slaughtered *in extremis*, the flesh quickly changed colour, became dark to blackness, assumed a watery condition, and putrefied easily. Prophylactically, the parts of the animals' bodies where the hairs were scanty were wetted with a mixed aqueous solution of lysol, creolin, and alum. The treatment adopted in the case of animals already affected was the administration of cardiac stimulants in the form of coffee, rum, or cognac, or the subcutaneous injection of caffeine.—(*Münch. Tier. Woch.*)

[Neumann mentions several species of *Simulium*, and names two in particular—*S. maculatum* and *S. columbatzense*—as having caused fatalities in stock. He does not refer to *S. ornatum*—or, at least, not under that name. *S. ornatum*, with several other species of *Simulium*, is found in this country; and Fleming found *S. Reptans* exceedingly troublesome to horses during manœuvres in Staffordshire. According to Laboulbène, the various species of *Simulium* are somewhat difficult to distinguish from one another.—*Transl.*]

THE TOXIN CONTAINED IN THE ASCARIS MEGALOCEPHALA.

M. Weinberg, of the Pasteur Institute, and A. Julien, of the Veterinary Sanitary Service of the Seine, have been working upon this subject for two years, and state their results in a long article. After pointing out the numerous instances in which the handling and dissection of ascarides has caused toxic effects in human beings, they proceed to consider the toxicity of the ascaridian secretion for the small animals of the laboratory. On this point different investigators have reached opposite opinions, but the authors, having collected the peri-enteric liquid by a special method of their own which they describe, have satisfied themselves that it is toxic, and lethally so, for such animals as guinea-pigs. The degree of toxicity, however, varies in different samples of freshly obtained peri-enteric liquid.

Further, the authors have investigated the effect of the ascaridian toxin upon the actual host of the parasite by instilling the peri-enteric liquid of the *Ascaris megalocephala* into the conjunctival sac of the horse, and have also endeavoured to elucidate the nature of the toxin or toxins contained in the liquid. They report their results with considerable detail, and their main conclusions may be summarised as follows:

1. The peri-enteric liquid of the *Ascaris megalocephala* is injurious not only to the animals of the laboratory, but also to the horse himself. The ascaris therefore secretes a veritable toxin.

2. Instilled into the eye of the horse, the ascaridian toxin, in two-thirds of the cases, causes a local reaction characterised by œdema of the eyelids, congestion of the conjunctiva, and lachrymation.

3. Sometimes this local reaction is accompanied by more serious symptoms, such as dyspnœa, diarrhœa, and profuse sweating.

4. The ocular reaction appears very quickly, and only persists for from twelve to twenty-four hours. The general symptoms, though sometimes very alarming, disappear at the end of from two to three hours. (These serious general symptoms are most frequently observed in thin and debilitated horses, but this is only a general and not an invariable rule.)

5. The action of the toxin varies greatly with the samples of peri-enteric liquid collected. It may cause ocular symptoms even when the toxin is diluted up to 1 in 5000.

6. The peri-enteric liquid owes its toxic effect to a series of active substances, not to one alone.

7. The toxin is thermostable, traverses the Chamberland filter, and is partially dissolved in alcohol and ether. Its volatile products are also toxic.

8. Horses infested by ascarides gradually become immunised against the action of the toxin secreted by the parasites. In such horses the instillation of peri-enteric liquid does not in general provoke ocular reaction.

9. The serum of horses infested by ascarides contains specific anti-bodies, which are capable of neutralising very weak dilutions of the ascaridian toxin *in vitro*.

10. Among the other intestinal parasites of the horse, the sclerostomes alone secrete a substance capable of provoking an ocular reaction. This reaction is less frequent and more feeble than that caused by the peri-enteric liquid of the ascaris.—*L'Hygiène de la Viande et du Lait*.

CENTRAL HEMIPLEGIA IN A HORSE.

Busch records (*Zeitschr. für Veterinärkunde*) the case of a horse which he was called to treat, and found showing the following symptoms. The tongue was hanging a hand's breadth out of the left corner of the mouth, and the left under lip hung loosely downwards. The upper lip and the tip of the nose were twisted to the right, thereby narrowing, lengthening, and lowering the left nostril. The left ear was hanging loosely and horizontally downwards, and could not be moved. The eyelids of the left eye were unable to close, and the upper one had sunk downwards. The head was turned obliquely to the right. In consequence of the narrowing of the left nostril, the breathing was rendered rather difficult. The pulse was 48 per minute, and the rectal temperature was 100° F. Shortly cut food was taken up with the incisor teeth, but a great deal of it fell out of the mouth, covered with saliva, during mastication. The horse could take water, and in doing so immersed the head up to the corners of the mouth.

When standing in the stall the patient pushed the left side of the head against the edge of the manger, and leaned with the same side of the body against the wall. It could only be led out of the stall when turned towards the left, and pushed and supported by several people.

The gait in progression was uncertain, the limbs on the left side being brought forward with a dragging movement, and placed on the ground as if groping. In movement, the horse pressed strongly to the left, and rolled in every direction during turning. The left eye showed marked dimness and opacity of the cornea, and the conjunctiva was very much reddened and swollen.

The symptoms of paralysis increased in the course of a few days, so that the horse could scarcely stand upright. It was therefore put into slings. The next day it showed symptoms of great agitation, pressed with the raised head against the manger and then backwards, thereby slipping out of the slings. It then fell to the ground, and could not again be brought to the standing position. Water was still taken, but not food. The temperature was now 99.1° F., and the pulse 50 per minute.

After three days the horse rose, shook itself, took hay, and could stand. The symptoms of pushing with the head, leaning against the wall, and the above described abnormal progression, were no longer seen, but the oblique carriage of the head and the deportment of the tongue and upper lip remained, and the lower lip still hung loosely downwards. An ulcer was now present in the middle of the cornea of the left eye. The horse received soft food and hay. The condition improved, and after three and a half months the symptoms of paralysis had dwindled to an insignificant hanging downwards of the lower lip.

The author briefly sketches the therapeutic treatment adopted. The muscles of the ear and face were massaged daily. For a fortnight the horse daily received an injection of strychnine, and in the third and fourth weeks injections of veratrin. In the latter course of the case electricity was applied daily.

The author suspects that the cause of the condition was a blow or push with the head against the manger or the wall of the stall, which was a very narrow one.—(*Münchener Tier. Woch.*)

BOTS AS A CAUSE OF COLIC.

Seegert records (*Zeitschr. für Vet.*) the following case. A horse, which had been at grass during the previous summer, suffered from irregularly intermittent attacks of colic. The action of the bowels was good, despite the liability to colic. Seegert suspected bots as the cause of the trouble. He therefore gave, three times at intervals of two hours, two gelatine-capsuled balls each containing 8 grammes (= 3ij.) of bisulphide of carbon, and followed this up by giving 25 grammes of extract of aloes a few hours after the last couple of carbon bisulphide balls. On the second day pulpy evacuations set in, in which over 200 bots were counted. From that time forth the horse was healthy.—(*Berliner Tier. Woch.*)

W. R. C.

[Cause and effect seem so plain here that the case appears to be worth noting as a contribution to a very old question.—*Transl.*]

WEST OF SCOTLAND VETERINARY MEDICAL ASSOCIATION. [NATIONAL V.M.A.—SCOTTISH BRANCH].

The annual general meeting was held at the Glasgow Veterinary College on Wednesday, 14th January, at 3.30 p.m. In the unavoidable absence of the President, Mr. Thos. A. Douglas, M.R.C.V.S., Kilmarnock, presided. The following members were present: Messrs. Hugh Begg, Hamilton; McGeoch, Paisley; John Taylor, Cathkin; Jas. F. Taylor, Hamilton; J. G. Reynard, Perth; Geo. W. Weir, Glasgow; Jas. F. Macintyre.

Apologies for absence were intimated from the President: Prof. J. R. McCall, Messrs. Jas. Macfarlane and R. G. Anderson.

On the motion of Mr. Begg, it was agreed to accept the minutes of the previous meeting as read.

Election of Officers.—The present office-bearers were elected for another year, viz.: *President*, Prof. J. R. McCall; *Treasurer*, Mr. Geo. W. Weir; *Secretary*, Mr. Jas. F. Macintyre.

Correspondence. The SECRETARY read a letter from the Secretary of the Royal Sanitary Institute intimating that the Institute would hold a Congress at Blackpool on July 6th-11th, 1914, and asking that delegates be nominated from this Association to attend.

Mr. JOHN TAYLOR (Cathkin) proposed that this matter be left over till next meeting, and this was carried unanimously.

A letter from Mr. W. Shipley, F.R.C.V.S., Hon. Sec. and Treasurer of the Victoria Veterinary Benevolent Fund asking that the question of a subscription to this Fund be introduced.

Mr. REYNARD proposed that a guinea be sent to the Benevolent Fund, and this was seconded by Mr. Weir.

A letter from Mr. Henry Gray, 23 Upper Phillimore Place, London, W., Hon. Sec. and Treasurer to the "Hunting Memorial Fund." On the termination of the reading of this letter, sympathetic references to the death of the late Mr. William Hunting were made by the Chairman and Mr. Begg. On the motion of the latter gentleman, seconded by Mr. Reynard, it was agreed to forward a sum of two guineas to the Hunting Fund.

The TREASURER read a letter from Prof. Bradley Principal of the Royal (Dick) Veterinary College, Edinburgh, referring to the position of this Association in relation to the National Veterinary Association, in which he indicated that for every member of this Association who pays his subscription, our Treasurer pays to the Secretary or Treasurer of the National a capitation fee of 1s. Prof. Bradley further added that every member for whom we paid a capitation fee may become a member of the National on payment of an annual subscription of 7s. 6d.

On the motion of Mr. Begg, seconded by Mr. Douglas, it was agreed to leave this matter in the hands of a committee composed of the President, Treasurer and Secretary, to decide the annual fee to this Association in its relation to the National.

A meeting was held later by this committee, when it was decided that 10s. 6d. be the annual subscription to this Association.

THE TUBERCULOSIS ORDER, 1913.—ADJOURNED DISCUSSION.

Mr. TAYLOR said that in opening this discussion on the subject of the Tuberculosis Order, he did not think he could give anything new about it. Mr. Douglas had given them some insight into the working of the Order by an inspector, and he would suggest that he might take up the Order as it affected the private practitioner. He thought that general practitioners were more or less

in favour of the Order, and he thought he was right in saying that they wanted the working of it to be a success.

Mr. Douglas had remarked in the opening part of his paper that tuberculosis had for many years been giving all concerned a good deal of worry; meetings had been held, papers read, and discussions had taken place, commissions had been appointed, reports issued, but not much had been done to eradicate the disease from amongst our stocks. Now the Board of Agriculture had moved, and issued an Order. However small some of us may think that Order is, it is hoped that it may be only the thin edge of the wedge, and if proper use is made of it and good results are seen to come from its enforcement, we may expect to find the Order altered, and amended so as to tackle tuberculosis in a more thorough manner.

Mr. Douglas says the Order is a very gentle beginning, the object being to get rid of two of the most dangerous classes of tubercular animals. Will this be the case? If we look at it from another side, take the clinically affected animal, an animal we are certain by clinical examination is affected by tuberculosis, if in fair condition and udder free from any induration and giving plenty of milk, she is allowed to keep her place in the byre—she does not come under the Order—and the result is that she is contaminating the whole surroundings. Animals standing with her, if predisposed to the disease, become affected, the milk drawn from the other cows is polluted by tubercle bacilli and the disease is spread broadcast, seeds are sown which produce a new crop of udder affected and emaciated animals, thus helping to frustrate the good effect we expected to derive from the Order. But if we had the clinically affected cow included under the Order and compensation given for her, then the emaciated animal would disappear, for if found, the owner might be prosecuted for keeping her. Mr. Douglas in his paper notes this clinically affected animal, but a passing note is not of much good, all having public health and the health of our stocks at heart, must bestir themselves and approach the Board of Agriculture asking for an extension of the Order. Want of money will be the excuse, but money can be got for other objects and it can be got for this. The £60,000 allowed for removing the emaciated cows would be better spent in compensating for the clinically affected animal, for if spent thus the "piner" would disappear.

With Mr. Douglas in his definition of emaciation I am afraid I cannot agree. His opinion appears to be that if an animal is leaner, and not in the same condition as her neighbours in the same stock, he would hold that she is an emaciated animal; but take that animal and place her in another stock not so well cared for, there she may be the best-looking animal in that stock. This animal, in my opinion, comes under the class "clinically affected," not "emaciated." The reading of the Order is emaciation, a "piner," an animal worth knacker's price, no more.

As to valuation, Mr. Douglas and I are at one, there should be no difficulty here. It does not matter what the animal cost your client. If the animal develops a disease then her value is diseased value. If a cow, and she develops localised tuberculosis in the udder, with the carcass free, she is no use for milk, she is passed on to the butcher, so that her value here is not the value of a milk cow but of one for meat, "butcher's value." If she develops generalised tuberculosis with emaciation, then her value is knacker's value. But this is a matter which can safely be left in the hands of the inspectors, they will do the best they can for their local authority, and we can advise our clients to do the best they can for themselves.

With regard to diagnosis, as I stated at the previous meeting, there may be a difficulty here in the private

practitioner coming to a correct diagnosis, but if we have a case of emaciation and we can find no other cause for it, we are safe in reporting the animal under the Order, knowing that 90% of the emaciated animals we come across are tuberculous.

A more difficult problem arises when we come to udder diseases. The Order says all animals with tuberculosis of the udder, indurated udders, and any other chronic disease of the udder are to be reported under the Order. Here your client is liable to be prosecuted for keeping a cow with tuberculosis of the udder in his stock, unless you advise him correctly. If he is caught he throws the blame on you, but I think a little common sense here will save a lot of trouble. When we are consulted about an udder affection, if there is any suspicion that tubercle may be present, advise your client to report under the Order, it costs him nothing and it keeps him safe.

There is another side of this story. All the cases of induration you report to the inspector are noted in printed forms, and opposite each report you find the result of the inspector's investigation. Well, you don't care to see "negative" put against nearly every report you send in, and if the report is examined by some of the local authority, who may not know much about the subject, they are inclined to think this man does not know much about his profession, he has too many "negatives."

A good plan to detect tuberculosis of the udder would be for the practitioner to ask the inspector for a few sterilised bottles, and when he comes across induration draw a sample of milk, send it to the inspector, and if he gets a reply as "positive" report the animal at once, if "negative" reply then both the veterinary surgeon and his client can do as they like with the animal without risk of prosecution.

Tuberculin testing is a subject which has already been pretty well discussed. My opinion of the tuberculin test is that it is perfectly reliable if carried out in a systematic manner, and if reliable tuberculin is used. But I am afraid it is not as reliable when applied under the Order of 1913, and as the Order at present stands. If the test was applied to clinically affected animals then I would have more faith in it, but when you come to apply the test to tuberculous animals with emaciation then I am of opinion that 25 per cent. will give no reaction.

I note Mr. Douglas says the reaction is often got early, this I find by experience to be true in some cases, but in others neither the subcutaneous or ophthalmic test gives any reaction at all. Then when we come to udder cases, the test is not so reliable as one would wish because in indurated udder cases we very often have a fluctuating temperature due to the animal being in bad health, the temperature at one time may be 102°, in a few hours there may be a rise to say 103° or 104°, and this may be due to other causes than tuberculin.

Although I pass this remark about the tuberculin test under the Order I am open to conviction, and don't mean to say the inspector is misled by its action. He has other methods which, taken in conjunction with the tuberculin test, will guide him; he has the clinical examination of the animal, the sputum, the excreta, and the milk.

In sampling the milk of a tuberculous udder I am of opinion that the samples often vary, due to the condition of the tubercles in the udder. I think it even possible to get a "negative" sample from a tuberculous udder at one time, and at another time get a sample teeming with bacilli, due to the breaking up of some of the nodules, so I think that in suspicious cases the animal should be kept under supervision for some time before giving a decided opinion, unless we get a "positive" result on first sample.

The remaining part of the paper is taken up with the

examination of cattle in markets; the cost of the Order is also touched upon and Mr. Douglas gives his experience on the working of the Order in his district. These points can be better spoken of and discussed by inspectors under the Order, and we private practitioners will be delighted to hear their opinions and profit by them. I hope others will give us the benefit of their experiences.

This terminated the reading of the paper and a very interesting discussion followed on the various points brought out by the essayist, in which Messrs. McGeoch, Jas. F. Taylor, H. Begg, and the Chairman took part.

A cordial vote of thanks to Mr. John Taylor, and also to Mr. Thos. A. Douglas, for presiding, brought the meeting to a close.

J. F. MACINTYRE, Hon. Sec.

ROYAL COUNTIES VETERINARY MEDICAL ASSOCIATION. [NATIONAL V.M.A.—SOUTHERN BRANCH].

The annual general meeting was held at the Great Western Hotel, Reading, on Friday, January 30th. At the meeting the President (Mr. J. C. Coleman, Swindon) took the chair, others attending being Messrs. W. A. Hancock and W. T. D. Broad (Vice-presidents), Percy J. Simpson (hon. auditor), G. P. Male (hon. sec. and treasurer), Prof. Brayley Reynolds, and Messrs. J. R. Baxter, H. S. Dunn, J. W. Hopkin, J. H. Parker, S. H. Slocock, and R. J. Verney; and Mr. Theo. Toope (visitor).

Apologies for Absence. The HON. SEC. announced a large number of letters and telegrams of apology from members.

Title. Mr. SLOCOCK gave notice that at the next meeting he would bring forward a resolution to delete the word "medical" from the title of the Association, so that in future it should be known as "The Royal Counties Veterinary Association."

THE INTERNATIONAL CONGRESS.

The HON. SEC. announced a letter from Mr. F. W. Garnett, in which that gentleman gave a list of those gentlemen who had not yet paid the subscription which they had promised—they were only few, and expressed the hope that others would subscribe as money was badly needed.

THE LATE MR. W. HUNTING.

The HON. SEC. read a letter from Mr. G. E. King, of Abingdon, who could not attend the meeting, expressing the hope that this Association would vote a donation to the Hunting Memorial Fund. Mr. King said he believed it was contemplated to establish a lectureship modelled on the lines of one of the lectures given annually by someone who had done special work to further professional knowledge. Their late friend, he added, was so untiring in his efforts, and so devoted to the interests of the profession that he considered they should do something to perpetuate his name.

The PRESIDENT quite agreed that the Association should subscribe to so worthy an object.

Mr. SLOCOCK said that members of this Society saw a great deal of Mr. Hunting, as did the Central, and they always benefitted by his presence at their meetings. He moved that the sum of five guineas be subscribed by the Association towards the Hunting Memorial Fund.

Mr. VERNEY seconded the resolution, which was carried unanimously, and Mr. Male added that he knew many members were subscribing individually.

THE DEATH OF MR. WM. WILSON.

The HON. SEC. said he had to record with very great regret the death of another very old member of their Association, Mr. William Wilson, of Berkhamsted. He did not know of it until he saw the announcement in *The Record*, and consequently he was unfortunately unable to arrange for the Association to be represented at the funeral, or to send a wreath. He had, however, written to the members of the family and received a reply, which he read. Mr. Wilson was much esteemed and respected by them all, and was one of the oldest members of the Association, of which he was President in 1891.

On the initiative of the President, those present stood to pass a vote of sympathy with the family of the deceased gentleman.

The Accounts. The HON. AUDITOR (Mr. P. J. Simpson) presented and commented on the balance sheet for the year ended Dec. 31, 1913, observing that the accounts had been so nicely kept that he had found no trouble in checking them. The figures showed a balance at the bank, of £57 14s., as compared with £53 2s. 8d. brought forward. He suggested that Mr. Toope should be asked to get definite information from the National Association as to whether members of more than one Society should be paid for by each of the societies of which they were members, or only by one of their affiliated Associations; and Mr. Toope said he would see that the matter was mentioned in due course.

Representations on the Council. Messrs. J. C. Coleman, P. J. Simpson, and W. A. Hancock, with the Hon. Secretary, were unanimously elected representatives of the Association to the Council of the National Veterinary Association.

Next meeting. It was resolved, on the proposition of Mr. Parker, seconded by Mr. Male, that the next meeting of this Association be held in April at Faringdon.

Mr. SIMPSON read the following report of Mr. Male, who had acted as delegate to the Sanitary Institute Congress at Exeter. [Mr. Male was suffering from severe sore throat.]

ROYAL SANITARY INSTITUTE CONGRESS— REPORT BY MR. G. P. MALE.

Mr. President and Gentlemen,—As you will remember, our President, Mr. Coleman, was elected to act as your representative at the Exeter Congress, but at the last minute he was prevented from attending, and as I was representing the National Veterinary Association, he wired asking me to take his place as your delegate also. This I was pleased to do, and now beg to present my report, although I feel sure in doing so that you will all regret with me that he is not addressing you to-day instead of myself.

The Congress was well attended; in fact, the hotel accommodation was taxed to its utmost to provide room for all the visitors. With another of our noble profession I arrived rather late, but was lucky enough to find where to lay my head for the night. I made a special note for future Congresses to always book a room in advance.

Next morning at breakfast I found myself in the midst of a number of medical officers of health, who were freely discussing the Congress, and all decided to attend the Veterinary Section, which, they said, was by far the most interesting part of the Congress meeting that day—i.e. July 9th. This proved to be the case. The room was crowded, the discussions were brisk and well sustained, and participated in by medical men, laymen and sanitary inspectors, besides veterinary surgeons.

Members of the profession from the West of England were in force, but I regret to say there were but few from other parts, possibly owing to the distance that had to be travelled to the meetings.

Professor Penberthy presided, and is to be congratulated on the able and tactful manner in which he conducted the business. His address was a survey of the questions especially affecting veterinary surgeons and public health, and coming from one who is Chairman of the Contagious Diseases Committee of the Central Chamber of Agriculture, and who has always taken the greatest possible interest in these questions as affecting agriculture. It appeared in *The Veterinary Record* and in the *Journal of the Royal Sanitary Institute*, and should be read by every member of our profession.

He intimated his belief that the Tuberculosis Order was only the initial step in the crusade against tuberculosis in cattle, and described the Order as being a very moderate one, agreeing with the principle of it, except as to the amount of compensation given to the owner of the diseased animals and the source from which this compensation comes. He thought it should be a matter of national health and paid out of the Exchequer. He believed that in five years further legislation would be forthcoming, and suggested that there should be further investigation of tuberculosis from animals to man, and especially the part that may possibly be played by tubercle bacilli of bovine origin, in conferring some immunity to the human species.

Mr. Wm. Ascott's paper on the Milk and Dairies Bill was well received. He pointed out the pressing need there was for such a measure, graphically described the condition of some of the cow byres in his district, and urged that the cows themselves should be thoroughly and frequently inspected, on the principle that "prevention is better than cure." He welcomed the Milk Bill, but thought it should not be permissive as far as the rural district councils were concerned but compulsory, otherwise it would be a dead letter.

Those contributing to the discussion were Dr. Garnett, Dr. Fremantle, J. A. Dixon, M.R.C.V.S., J. W. McIntosh, M.R.C.V.S., J. Dunstan, M.R.C.V.S., A. H. Archer, M.R.C.V.S., and myself.

If the medical officers of health that spoke were representative of the others, there should not be much antagonism in the working of the Order. They freely acknowledged that the veterinary surgeon was an expert, and that he should work in collaboration with the medical officer.

Mr. Dixon did not agree with giving compensation to the farmers; he thought they had been "molly-coddled" too long.

One speaker thought there might be some overlapping between the Tuberculosis Order and the Milk Bill, as under the Milk Bill there was no provision for slaughter, and compensation that had to be dealt with by another authority.

Mr. W. P. Stableforth, F.R.C.V.S., presented a very practical and carefully thought paper on "Bovine Tuberculosis: its Diagnosis," and it was unfortunate there was not more time to discuss it thoroughly—this remark also applies to the other papers.

Mr. Stableforth held the view that the examination of milk was a matter for the expert bacteriologist, and described the difficulties in diagnosing tubercle bacilli in some samples of milk. Also that veterinary officers should be full-time men. His remarks, which somewhat reflected on the capability of the veterinary surgeon to do bacteriological work, met with some opposition from the President and other speakers. All agreed as to the value of the tuberculin test. Those taking part in the discussion were Dr. Gamble, Dr. Kerr, and Messrs. Bond, Dixon, Glover, and your delegate.

Mr. A. H. Archer, M.R.C.V.S., who prepared a paper on the "Transmission of Diseases by Animals to Man," was unfortunate in that his paper was not printed owing to a clerical error, so the discussion was somewhat limited. He emphasised the necessity of guarding against infection from animal sources, especially from cats, dogs and birds.

PRIVATE SLAUGHTER-HOUSES, PUBLIC ABATTOIRS, AND FREIBANKS.

The last paper, which was ably introduced by Dr. H. Jones, in the absence of Dr. Peck, was in support of a resolution, which was afterwards unanimously carried, to abolish private slaughter-houses.

It was pointed out by several that there were great difficulties in the way, especially in rural areas, but a member from Scotland spoke of the success of the public clearing-houses in some parts of that country, and thought a similar system could be adopted here.

The serious part of the business over, the rest of the day was spent in receiving hospitality, first from the Western Counties Veterinary Medical Association, who entertained your delegate with others most royally, and later the Mayor and Mayoress gave a conversation, which was a brilliant function and largely attended.

A conference of medical officers of health was held the next day, which your delegate attended and held a watching brief in the interest of the veterinary profession. Four papers were read and discussed very briefly, but with the exception of one of them they did not directly concern us.

This was my first visit to a Sanitary Institute Congress, and I was greatly impressed by the absolute necessity of delegates being sent to these gatherings. If we as a profession are to hold our place in the race for recognition, we must use every legitimate endeavour to advance our claims, and if we wish to be considered a scientific body and to have our opinions sought and respected by other branches of science, then we must take a share in these discussions and prove our worth.

In conclusion, I should like to thank you and the National Veterinary Association for allowing me the privilege of representing you.

The PRESIDENT remarked that he was very glad to see that Mr. Male had discovered that medical officers of health did not oppose veterinarians, which was not his (Mr. Coleman's) experience. The overlapping of duties under the Dairies and Cowsheds and the Tuberculosis Orders was a very serious matter, and one which required grappling with with some strength. In his own borough (Swindon) after many years the medical officer of health had decided that cows should be inspected in company with him (Mr. Coleman); and the Council last February ruled that that should be done; but the medical officer and the town clerk put their heads together and said that as the Tuberculosis Order was coming into force in May it should be deferred; and nothing had yet been done. He had great pleasure in moving a vote of thanks to Mr. Male for his very elaborate yet concise report. (Hear, hear.)

Mr. SIMPSON seconded the vote of thanks with much pleasure. As to veterinary surgeons attending those Congresses he—having been to one or two of them—could back up Mr. Male's remark. He had found the veterinary surgeon thoroughly well received there, and his opinion thoroughly well respected—in fact he was better appreciated by medical officers of health than by veterinary surgeons. It would well repay any country practitioner to spare two or three days and the guinea subscription to go to the Congresses of the Sanitary Institute or the Royal Institute of Public Health, as he would combine pleasure with business. (Hear, hear.)

This was cordially passed, and acknowledged.

CASES OF INTEREST.

Mr. MALE said he was allowed to show a rather interesting case through the courtesy of Mr. Owen, of Thame, a former member of their Association, who sent him a horse, as he said "either to kill or cure." Mr. Owen would have come himself that day but that he was absolutely prevented from doing so by some family matters. The horse, which won a second prize as a two-year-old at the Oxfordshire Agricultural Show, was now five years old. Mr. Owen wrote that he found a remarkable enlargement of the maxillary bone, and had tried all sorts of things without success; he fancied the injury might have been caused by a kick while the animal was out at grass. Of course he (Mr. Male) would like to cure it, but he feared the only "cure" would be a bullet.

[The horse was afterwards brought out from the Great Western Hotel stables, and examined with much interest by the members].

Mr. HOPKIN brought the same curious calculus from a horse's cheek, where it had been for four and a half years, which he showed at the November meeting, and had since had sawn in two longitudinally. He thought it was a salivary calculus, though it differed a good deal from others he had seen.

SUGGESTED VETERINARY INSPECTORS' SECTION.

Mr. TOOPE said he had been granted the privilege of making a few remarks on a scheme which he had suggested in various places, and which he thought might bring about good feeling between those who were not veterinary inspectors and those who were. He suggested that this Association should form a veterinary inspectors' section, which should meet an hour previous to the general quarterly meetings of the Society and discuss any cases of general interest to themselves. All members of the profession should be invited, and those who attended more than once at such gatherings would, he thought, soon become members of the Society, thereby increasing its strength, as well as assisting materially in the elucidation of the difficult problems of the day, and of the future, which would be still more difficult. That plan had been in operation in the South Eastern Counties now for some two years, and at the last meeting a fortnight ago no less than 21 turned up from Sussex, Surrey, and Kent, and had a very interesting discussion on some aspects of the Tuberculosis Order. In addition to that he (Mr. Toope) arranged for a microscopical display. By that means they had in Kent very largely increased their fees, and had placed themselves in quite a different position to that which they held formerly with regard to the medical officer of health, to the Contagious Diseases of Animals Committees, who now referred to them for advice instead of giving them an order to proceed at their price (Hear, hear). A union of that sort was bound to cement friendship, and also to benefit every member of the profession, inasmuch as it would increase his social position and his influence with the authorities by whom he might be employed. All that was necessary was to invite the veterinary inspectors in the different counties to send a deputation representing each county or authority at their meetings; and in that way they could get a general consensus of thought. Other counties were taking such action. In Aberdeen, where the pay was simply shocking, it is now something like 30 per cent. more than it was before. He, as a borough inspector, undertook the whole of the duties under the Order, microscopical examinations, etc., save and except the biological test, which he had arranged to have done in London. The medical officer had offered to do the work at a reduced rate, but he (Mr. Toope) was continuing to do the work; and he said he should certainly decline to take the samples for the medical officer of health for nothing.

The PRESIDENT said the idea seemed to him a good one. Anything in the way of bringing them together to discuss debatable points must always be an advantage. (Hear, hear).

Mr. MALE said they should have time to think about the matter. Perhaps if Mr. Toope would kindly come down to their next meeting they could discuss it fully. As far as Berkshire was concerned, they had practically done it on a small scale, their advice on the Order had been asked and their fees had been granted, and he thought the inspectors in the other counties had done the same thing.

Mr. TOOPE said they had been so far fortunate, but there were other matters for consideration which would arise.

Mr. SLOCOCK thought the suggestion an excellent one. In Middlesex, where they were quite content, they had not perhaps joined the inspectors in the same spirit that other counties had. He agreed with Mr. Male that the matter wanted a great deal of ventilation, and he proposed that it be placed on the agenda for the next meeting.

Mr. HANCOCK seconded the resolution, which was carried unanimously, and Mr. Toope promised to do his best to attend the meeting.

New Member. Mr. W. G. GREEN, of Rosenheim, Boscombe Park, Bournemouth, was proposed by the President, seconded by Mr. Broad, for election as a member of the Association at the next meeting.

PRESIDENTIAL ADDRESS.

J. C. COLEMAN, F.R.C.V.S., Swindon.

I feel that you have done me a very great honour in electing me your President for the ensuing year. The Association has numbered among its members and past presidents many of the leading lights of our profession, and I feel very deeply the grave responsibility that devolves upon me to maintain the position which this, of the oldest of veterinary societies, has attained. Further, the year 1914 I feel sure will be one of the most important in the annals of our profession and will stand out as "red-letter" year for all time.

I am more anxious that during my year of office members of our profession, especially those of the Royal Counties Veterinary Association, shall truly realise their position and duty both to the public and themselves, throwing aside lethargy, each member setting to work in earnest to educate their respective authorities to the absolute necessity of our inclusion in the official administration of all Acts or Orders relating to public health where the lower animals are concerned. More particularly I refer to the proper inspection of meat and of all cows supplying milk to the public.

It has been suggested that we should have a representative at the Local Government Board. I shall welcome a discussion upon this point at a future date, and, if your opinions be in the affirmative, that steps be taken to bring the suggestion before the proper authority.

I would like our profession to show its gratitude to those who sacrifice their whole lives in scientific research for the purpose of discovering the cause, prevention or cure of disease, by taking an intelligent interest in these matters and making themselves conversant with their discoveries.

Quite recently I saw it stated that a medical practitioner had fed two or three cats upon, and had himself consumed, a quantity of milk from a known tuberculous cow, and none of them had contracted the disease, and upon this very meagre evidence he dared to refute the decision of those savants who had made exhaustive investigations and had proved beyond doubt that the disease is capable of transmission and is also contagious.

To obtain legislation upon any subject it is first necessary to arouse public interest, and to attain this end they must be educated upon the matter at issue. The expression of an adverse opinion, as above cited, and which had probably been arrived at too hastily by one who *should* know something of the subject, tends to considerably delay progress, as the lay public are ever ready to grasp at the smallest particle of what appears to them to be reliable evidence which flatly contradicts other evidence which has already caused them alarm.

The age of "bluff," and "the only object in life to obtain fees," is largely passed away, and in the near future only those men who have a sound and up-to-date scientific education and an innate love of their profession will succeed.

"Our profession needs no bulwarks
No towers along its steepes,
Our march is onward 'midst disease,
And 'science' still our motto keeps."

During the ensuing session of Parliament we hope to see the passing of the Veterinary Surgeons Amendment Act, otherwise bankruptcy seems to stare us in the face.

In August next the Tenth International Veterinary Congress is to be held in London, and it is the duty of every member of the Royal College of Veterinary Surgeons to make an individual effort, however small, to ensure the Congress being a huge success. I am an advocate that every one should do what little they can and not leave the whole to a few energetic men, who are ever ready to come to the rescue when the honour or advancement of our profession is at issue.

Sir Stewart Stockman informs me that the total subscriptions have not yet reached the minimum sum estimated to be required. Any gentlemen who have not already subscribed, or who wish to increase their amounts, may be assured that however small they will be welcomed. I have no doubt that our worthy Secretary and Treasurer will be pleased to receive and forward the same to Mr. Garnett and save you the trouble of so doing.

I trust that some of our younger members will give us the benefit of their more recent tuition, by coming forward with papers or practical demonstrations of recent methods of diagnosis, treatment, or prevention of disease. Also, that our meetings will be well attended and discussions sustained.

My own deep regret to-day is the absence from our gathering of one who was beloved and admired by every member of our profession who knew him, and a host of members of other professions, and whose memory it is proposed to perpetuate. We who knew him cannot do better than by doing our very best to emulate his noble example. Needless to say, I refer to William Hunting.

I beg to thank you all most sincerely for having done me the honour of electing me your President for 1913-14, and I only trust that with your support I shall leave this chair, your confidence increased and my profession losing nothing of its professional status.

Mr. MALE and Mr. Hopkin were thanked for their specimens, on the call of the President, seconded by Prof. Reynolds.

Mr. HANCOCK moved a very hearty vote of thanks to the President for his Address, in which he had touched on topics of great interest to the profession.

Mr. SLOCOCK seconded the resolution, and the same was carried by acclamation.

THE DINNER.

The PRESIDENT filled the chair at the annual dinner which followed the meeting, and which was attended by the gentlemen named above, and by the following visitors and members who had been unable to take part in the business proceedings:—Visitors: Ald. J. W. Martin, Deputy-Mayor, and Councillors W. J. D. Vennor and John Eighteen, Reading; Ald. W. W. Dickson, Swindon; Mr. H. W. Boileau, Master of the South Berks Foxhounds; Dr. Stenhouse Williams, Professor of Bacteriology at Reading University College; Mr. A. G. Hutchinson, and Mr. Hugh McCormack. Members: Capt. O'Rorke, Mr. R. C. Tennant, and Mr. Hunt.

The toast of "The King" having been loyally honoured on the call of the President,

Prof. REYNOLDS gave "The Imperial Forces." The British Navy, he said, was undoubtedly the best Navy in the world, and it was their duty to see that it always remained so. Undoubtedly large sums were being spent annually on armaments, but if they looked on it as a matter of insurance, as they were all quite willing to do, and in view of the fact that other nations were nowadays, perhaps, shifting Britannia's trident to their own, they would not grudge the cost. Of one thing they were sure, that if it ever came to the test it would be found that those other Powers had not found the secret of producing the men who worked the British Navy. (Applause.) With regard to the Army, it was insignificant in comparison with the Armies of other European countries as regarded numbers, and that fact made it the more necessary that our Navy should be fully kept up. He had seen active service on land, and could say he believed our Army to be perhaps the best in the world for its number. Speaking as to veterinary surgeons, they should be proud of their members, who formed a corps of some considerable importance, and was one of the smartest Corps in the Army. (Hear, hear.) As to the Territorials, it was a pity that they had not got their full number.—(Ald. Martin: We are above our numbers in Berkshire.)—He was very glad to hear that, and if the same could not be said of other counties, conscription would have to be resorted to. (Hear, hear.)

Capt. O'RORKE, Army Remount Department, Arborfield, responded in a few words. Prof. Reynolds had, he said, proposed the toast so excellently, and it had been received so cordially, that he need say little. As to both Navy and Army—although the latter was so small numerically—he was convinced that in both we had the quality, and when they got to actual service, British pluck went a long way. In the past our Navy and our Army had kept this country to the front, and he believed that they would always do so. (Applause.)

Ald. MARTIN submitted the toast of "The Veterinary Profession." They lived, he remarked, in very competitive days, and had a great many difficulties to cope with. Their profession, above all others, at the present moment had to bear in mind motor cars and other matters which seemed to dispense with the use of the "gee-gee." At the same time the valuable services of the veterinary profession would always be required in connection with horses and other animals. He well recalled the late Mr. Wm. Flanagan, of Reading, as a most accomplished man, of whom they were very proud, and also his partner, the late Mr. Wheatley. He (the speaker) had attended several most pleasant social gatherings of the profession, twice when he was Mayor of Reading, and now as Deputy-Mayor, and he had never come across nicer men, socially and intellectually. Even laymen knew that their profession was indeed more onerous than even the medical profession itself. They were bound to go out at all times of the day and night, and he did not think they were too well paid. In

these days, unless the members combined, it was impossible to keep any profession up to the proper standard. (Hear, hear.)

Mr. SLOCOCK responded. Although small in numbers, he said, they all regarded their profession as an honourable one, and it was especially pleasing to have that toast proposed by such a prominent member of the legal profession as the Deputy-Mayor of Reading. He might be an optimist, but he had not yet accepted the idea that the veterinary profession was going downhill. He believed their total earnings exceeded those in any earlier year, their numbers were likely to increase, and their status was higher than at any time owing to the individual action of the members locally. The profession was well guarded by a Council, of which he (Mr. Slocock) had the honour of being a member. They had the one-portal system, of which they were so proud and so jealous that on no ground whatever would they give it up, however much they might sacrifice. The Council was poorer than it had ever been—was verging on bankruptcy—their sole source of income being the fees from students and the small fee for the Fellowship Degree. It was the duty of the Council to see that the country was provided with a sufficiency of well-trained veterinary surgeons. They had made the proud boast that their students before entering should pass a matriculation examination equal to that of any of the learned professions. The time seemed now arriving when they could no longer make that their proud boast. The Medical Council had raised its status, and could the Veterinary Council to-day raise their standard when they had so much smaller a number of students? It seemed to him that the only way was for them to combine to get the Veterinary Surgeons Amendment Bill passed—and it was bound to come. The profession in no way blocked that harmless Bill, only the fragments of which remained. They did endeavour to get a Bill passed which would have given them better powers for the protection of their status and the abolition of quackery, but that brought about so much opposition that they were obliged to be content with a measure just for their own management. They had now just framed a bye-law that would exempt those who had taken degrees in arts and sciences from having to submit to the first year's examination, of course with certain provisions as to anatomy, etc. Then there had been a variety of Charters, and they found it necessary now to apply for another, which he thought would not meet with any opposition if any in the House would find time to push it through, but they would have to approach the Members of Parliament in their divisions and see what help they could get. The new supplemental Charter was making certain provisions (to which the speaker referred). They wanted to see men specialise, and it was recognised that for a man to specialise he need not have been a practitioner for five years—a man could become an ornament to his profession with two years of specialised work. Then it was thought there should be a diploma in State Veterinary Medicine for the protection of mankind—such things as the Milk Bill and the Tuberculosis Order and the number of appointments made for veterinary surgeons under Municipal bodies, for which it was felt that there should be a line of study to particularly qualify those men for their work. They wished to draw out some syllabus, perhaps in connection with the Universities, for degrees in State Veterinary Medicine. (Applause.)

Mr. TOOPÉ gave "Success to the Royal Counties Veterinary Medical Association, its President, and Officers." That, he said, was his first visit to the Society, but he hoped it would not be his last. They had the right man in the right place as their President, and his genial hospitality would, he was sure, add a large number of members to their ranks. (Hear, hear.) In regard to their Secretary and Treasurer, he was a

hardworking man not only in that capacity but also on the Committee of the National Association. (Applause.)

The PRESIDENT said theirs was a really up-to-date Society; and he hoped that during the year members would get so used to coming to the meetings that at the next annual dinner they might have many more present. Success in all those things entirely depended on the attendance, and the comparing of notes. The day when men having got their diplomas thought about nothing but making up a little physic to get half-crowns was gone. He sincerely hoped that at the end of the year the Association would not have lost anything through having such a very indifferent president as himself.

Mr. MALE briefly returned his thanks.

Mr. HANCOCK proposed "The Mayors and Corporations of Swindon and Reading," saying they regarded as a matter of very great importance such meetings with members of corporations and members of their profession. Particularly in recent years, when diseases communicable from animals to men, and *vice versa*, were so much studied, such meetings were a great deal more important than they had been in the past. (Hear, hear.)

Ald. W. W. DICKSON (Swindon Corporation) said Reading was a County Borough, and Swindon was trying to become one. They were very well served on their Corporation, so far as the veterinary profession was concerned, by Mr. Coleman, whom he had found during the past 17 years a very good friend and a good practitioner. It was very difficult to carry out the Acts with regard to meat and milk; and he was sure Mr. Venner and Mr. Eighteen could tell them more than he knew about those matters. Medical officers often did not collaborate with veterinary surgeons, arrogating to themselves powers because they were members of the medical profession. The public should understand that although the medical officer was pre-eminent the veterinary officer should be pre-eminent in looking after their milk and food, and so on. (Hear, hear.) He had had a most enjoyable evening and he felt greatly indebted to their President for inviting him there.

Ald. MARTIN also replied. In Reading, he said, they had a most able and competent veterinary surgeon. Mr. Male had dealt with most difficult questions with painstaking care and skill, and great ability to the advantage of the Corporation and the inhabitants. (Hear, hear.)

Mr. VERNEY, in proposing "The Medical Profession," said he could not understand what he heard about any difference of opinion between them. He had always found medical officers of health most amenable men, and gave examples showing the cordial relations in which they worked.

Dr. STENHOUSE WILLIAMS began his response by saying that while no doubt there were medical officers of health and medical officers of health, there were also veterinary surgeons and veterinary surgeons. Before he came to Reading he was in charge of the Bacteriological Department in the University of Liverpool, and many of the old students were medical officers throughout the country, and they were a very fine lot if taken in the right way. There was, and should be, very close contact between the two professions. (Hear, hear.) The veterinarian was in a more difficult position than the doctor, because, except in the case of children, the latter could get some account of what had gone before his patient, whereas the veterinarian always had to face enormous difficulties in making his diagnoses. When he (the speaker) came to Reading, the Tuberculosis Order was just out, and he was asked to write something in the nature of a pamphlet on the subject for the benefit of the farmers. If they were going to produce any effect on a farmer they must tell him straight the effect of his loss; and so he asked how to get accurate

statistics of the number of deaths from tuberculosis among cows, and nobody knew. The Board of Agriculture referred him to the Local Government Board, and the Local Government Board referred him to the Board of Agriculture and then he referred to Mr. Male, and he did not know. If they were going to do any good by regulations, orders, or Acts of Parliament it was clear they must have the facts. Until they knew what animals were dying from any disease they could not call on the Government to take any specific measures. Perhaps they did not know what was well known to those at the Agricultural School at Reading, that there was at the present moment a very large body of the more intelligent farmers who would feel extremely glad to eradicate tuberculous cows from their herds. Some of them had formulated a scheme to start a farm to supply farmers with absolutely guaranteed non-tuberculous stock; and they reckoned that in order to put the thing on a preliminary basis and run it on absolutely clear lines, they wanted a capital expenditure of about £4,000. If they found it necessary to put out an appeal it would be of great service to them to feel that they had the support of this Association. (Applause).

Mr. TENNANT proposing "Fox-hunting," said it would be a bad day for the profession if the sport were given up. (Hear, hear).

Mr. BOILEAU, M.F.H., Master of South Berks for the last three years, said he had been very closely allied with veterinary surgeons for some time past, and had always accepted their verdict. He was very pleased to know Mr. Male. He had always ridden straight, and he (Mr. Boileau) was always glad to see him in the hunting field. (Applause).

"The Visitors" were toasted on the call of the President.

Mr. VENNER replied as a member of the Reading Corporation and Chairman, and also as a private trader. He had always held that inspectors of cows and of the food supply should be qualified veterinary men.

Mr. EIGHTEEN, Chairman of the Farm Committee, said he did not know of any Corporation who had done more than that of Reading to stamp out the terrible disease of consumption. Their veterinary surgeon had not condemned their animals wholesale, but he had tested them, and last year's report showed 64 of their cows out of 65 had passed the test. (Applause.)

Mr. MCCORMACK also replied, mentioning that the President, Mr. Tennant, Mr. Hopkin, and he were students together at College.

The harmony was contributed to by Messrs. P. J. Simpson, Hunt, Hopkin, and Hancock, with Mr. E. E. Langston as humorist.

G. P. MALE, Hon. Sec.

SOUTH EASTERN VETERINARY MEDICAL ASSOCIATION.

[NATIONAL V.M.A. SOUTHERN BRANCH.]

VETERINARY INSPECTORS' SECTION.

A meeting was held immediately preceding the annual meeting at Tunbridge Wells on January 15th. The retiring President (Mr. James Crowhurst) presided, and there were also present Mr. G. H. Livesey, President Southern Counties V.M.A., Messrs. E. Lyne Dixon, P. Gregory, Elmer Ebbetts, C. Crowhurst, J. H. Ripley, A. C. Burton, T. A. Huband, J. B. Dier, W. Caudwell, H. P. Hogben, T. F. Hogben, P. J. Austin, D. Reid Chalmers, T. Hibbard, J. Basil Buxton, E. W. Morris, G. Fordham, W. R. Emery, W. W. Gulleford, and Theo. C. Toope, hon. secretary.

The PRESIDENT extended a cordial welcome to all present, and said he understood there were some visitors from Sussex and also from the Southern Society with them.

Correspondence. The Hon. Sec. said that at the last Veterinary Inspectors' meeting the question arose as to what were the duties of the inspector on finding a case of tuberculosis in markets. He was instructed to write to the Board of Agriculture and also to the County Council with regard to it. He wrote to the County Council and he had received a reply which in no way answered the question. He wrote again on the same day he received the first letter, as follows:—

34 High Street, Dover.

Dear Sir,

Sept. 23, 1913.

Many thanks for letter. I fear I did not make my point quite clear, I will assume a case:—

A., a farmer at a distance, exposes a cow suspected of tuberculosis in open market. B., the veterinary inspector, sees it, and orders it out. A. and B. meet and A. agrees to have it destroyed at once without claiming any compensation. B. finds his suspicions confirmed on post-mortem. The query is—under above circumstances should B. examine all other bovines on A's premises, or, if outside his district, cause such to be done by C., i.e., the veterinary inspector for that district.—Yours, etc.,

THEO. C. TOOPE, Hon. Sec.

To that letter he received the following letter:—

Sessions House, Maidstone.

Dear Sir,

Sept. 24, 1913.

I am in receipt of your further letter of 23rd inst. If the animal is not taken back from the market to the premises from which it was brought, but examined by the veterinary inspector and destroyed by the owner at some other premises, there is no authority for *any veterinary inspector* to extend the examination to any bovine animals upon the premises from which such animal was taken to the market.—Yours faithfully,

(Signed) W. B. PROSSER, Clerk to Kent C.C.

Mr. CAUDWELL said he had looked the matter up in the Board of Agriculture regulations, and under article 14 of the Tuberculosis Order they were referred to Section 44 of the general Act, and it answered the above questions for them, that was having, if exceeding five or six days, full power to go and examine the other animals, if an animal was stopped in the market and slaughtered. If the district was in the jurisdiction of the inspector he had power to go and examine the other animals.

Mr. GREGORY said it seemed to him the old saying came true that there was never an Act of Parliament that they could not drive a coach and four through. He still thought, in spite of what Mr. Prosser said, that when an animal within a few hours of leaving the premises where there were many other cows, was brought into a market and exposed, and that animal was found to be tuberculous, they ought to be able to examine the cows on the premises from which the animal was sent, for in that way only could the perfect working of the Order be enforced.

Mr. EBBETTS said they could go and examine stock on the premises from which a tuberculous animal had been sent, but the questions were "Were they supposed to do it?" and "Ought they to do it?" That was what he would like cleared up.

Mr. GULLEFORD said anyone who had done it and had sent in his account had been paid. He did not know that it was professional to mention matters of £ s. d., but he had inspected stock on the premises during the past quarter, and he believed he did it the quarter before and his account was paid.

Mr. GREGORY gave an instance where an owner had an animal killed in the market and he (Mr. Gregory) went to the farm the next day and examined all the other stock.

The SECRETARY: This letter, then, I have received, is of no value whatever.

Mr. GREGORY: I think not.

The PRESIDENT said of course inspectors only had power in their own districts. They had no power to go into another inspector's district, and if they did they would be exceeding their orders altogether.

Mr. H. P. HOGBEN said he asked the Superintendent of Police of his district and he said he had received orders to follow up animals.

Mr. EMERY said he believed an inspector was entitled to follow an animal to its death.

Mr. GREGORY: Not when it is taken into another district.

Mr. EBBETTS, replying to Mr. H. P. Hogben, said the Act pointed out that when an animal was taken into another district they were to report the case to the police in the district to which the animal was taken.

The PRESIDENT said for the effectual working of the Order it should be where an animal was discovered to be affected with tuberculosis, or was strongly suspected, it should be followed up; but people were getting very learned in his district. He knew a dealer in cattle, who bought an animal knowing it was a suspected case of tuberculosis and took it to premises where there was no other stock. The animal was dealt with, but the inspector was not able to follow it up and make the Act effective by examining the animals it had been in contact with. In addition to that the man had another animal and he told him (Mr. Crowhurst) that as soon as this was dealt with he would bring another one to the same place to be dealt with in the same way. If they read between the lines they could see that some dairymen objected to the presence of the veterinary surgeon to inspect his stock, and to avoid it he got a dealer to take the animal to an isolated place and then give notice. It was a way of getting over the Order altogether. This case he had thought of bringing before the County Council for them to see what could be done. He thought it was a case in which the police should find out where the animals were brought from, so that the stock could be examined by the inspector. He did not think it advisable to pass a resolution at that meeting, because if the man gave notice to again do as he had intimated, he should write to Mr. Prosser and ask for instructions as to following up the animal.

Mr. GULLEFORD asked whether in the event of an animal being removed into another district it was their duty to give notice to the veterinary inspector in the neighbouring district.

Mr. GREGORY: Not the veterinary inspector, but to the police.

Mr. GULLEFORD said if a cow was to be moved into some other district he had to send a copy of his report under Article 11 to the police of that district, and would that not open their eyes.

The PRESIDENT said they could not compel a man to answer questions at all. They could put questions and the man could answer them if he liked. He did want it to go forth that a veterinary inspector only had power in his own district. He believed if a veterinary inspector were to go into another man's district to slaughter cows he would get into great trouble. It had been suggested that cases should be followed up by the inspector of the district in which the first case was discovered, which was evidently wrong.

Mr. H. P. HOGBEN said he received those instructions.

The PRESIDENT: It is against the Order.

The SECRETARY said he had invited members of the Southern Counties there that day, their President (G. H.

Livesey, Esq.) and several of them had come. He hoped they would be able to advise them and assist them if possible in the formation of an inspector's section of the Southern Counties. He thought they had only to see the zest with which the members of that Society worked to see that the suggestion he made at the Southern Counties meeting was invaluable. He trusted they would be able to help them by advice and by their experience in showing them what the effect of a combined meeting of veterinary inspectors, or a union of veterinary inspectors, in any county or in any division could do. His suggestion to them at Brighton was that they should form themselves into a section of the Southern Society. It was adopted and referred to their next meeting, but unfortunately that meeting in London was attended by very few. It was therefore suggested that he should bring it up again that day. He was pleased to see that several members of the Southern Counties had turned up in order to keep the subject warm. He presumed it would possibly be better to hold the matter over to the next meeting of the Southern Counties in March. The suggestion was that the Southern Counties should form an inspectors' section in the same way as the South Eastern Association had. He thought by coming there they could ask questions as to the working of the section, which would probably help them. He would go further and ask every Society in the Southern Branch of the National to follow their lines. The suggestion was that the veterinary inspector of each county or administrative body should hold a veterinary inspectors' meeting, and that delegates should be sent to those meetings of veterinary inspectors held in connection with the various societies if they could not attend in a body; and then through the Society, matters could be handed on to the National Veterinary Society. He believed the result would be that universal good would be derived from it. It was a process of decentralisation whereby every unit, each different section, that is the counties, etc. would be affiliated to the National and could make suggestions for the common benefit of all and through their societies they would be represented on the National. He was speaking for more or less inducing not only the Southern Society but other societies to adopt this principle. In various parts of the country the suggestion was being adopted. It was a plan that had worked well with them in the South Eastern Society, and he was sure it would work well with other societies if they only adopted it.

Mr. CAUDWELL said that at the meeting of veterinary inspectors of the Southern Counties held at the Holborn recently it was resolved to form a committee and he understood that all the veterinary inspectors in the adjoining counties had been invited to attend that meeting that day, but he was afraid at the present time there was a great luke warmness and apathy about that question with many, and that the only way they could make a move in it was by seeing the veterinary inspector personally and trying to induce them to join them. Personally, he would see some of the inspectors under the Surrey County Council, to see if they would join them. He did not know whether he could do more than that.

The PRESIDENT said as President of that Association he was honoured by being invited as a guest of the Southern Counties, and he extended a very hearty invitation to the members of that Association to come there that day, and he was sure they had great pleasure in receiving them. (App.)

Mr. GREGORY said as far as he was personally concerned he attended the big meeting at the Holborn, and afterwards he wrote to Mr. Spencer at Kettering saying that he would be very pleased to join the Association, and if he let him know the fees he would remit. He had not heard a word since.

The SECRETARY: Nothing tangible has been done since the fees were altered, and that was not to their advantage in Kent.

The following gentlemen brought bacteriological microscopes and specimens. Messrs. B. Buxton, E. W. Morris, E. L. Dixon, J. H. Ripley, C. Roberts, and the Secretary.

Amongst the exhibits were to be found:—*Bacillus bronchosepticus*; *Bacillus* of abortion and cultures of John's disease; Human, bovine, and avian Tubercle bacilli, from Mr. Buxton.

Sections of *Bowel*—John's disease; *Udder*—Tuberculosis; *Tongue*—Actinomycosis; *Lung*—Pleuro-pneumonia contagiosa; Melanotic Sarcoma; *Bacillus anthracis*, showing capsules and spores; Milk smears with tubercle bacilli, from Mr. Morris, Uckfield.

Bacillus of John's disease from bowel scraping, from Mr. Caudwell.

Bacillus tuberculosis—an extremely rich specimen of milk smear. Cocci from smear nasal discharge of cat. Lung section—tuberculosis, from Mr. Toope.

These exhibits were viewed with much interest by the majority present, and constituted quite an important feature of the meeting.

GENERAL MEETING.

Continued from page 497.

Correspondence between the President, Mr. James Crowhurst, and the Secretary of the International Congress was read, and in consequence of what was obviously a misunderstanding as to the purport, it was decided to postpone further consideration of the matter until the next meeting.

The question of giving a subscription to the William Hunting Memorial Fund was left over till the next meeting, when the financial statement would be presented and the Association would know what funds were in hand. A general expression of sorrow and regret accompanying this discussion.

Mr. SHIPLEY wrote regretting he could not get to the meeting, and asking for support for the Victoria Veterinary Benevolent Fund, which needed help.

Mr. TOOPE said anyone who was prepared to support the Fund could send subscriptions to him or to Mr. Shipley. Personally, he strongly advocated the Fund to their notice.

Mr. TOOPE read a letter from the Mayor of Margate, Mr. W. B. Reeve, who had hoped to attend the meeting that day with Mr. Dixon, regretting that he was unable to fulfil his promise owing to urgent local matters.

Mr. TOOPE said last year they all thought that the Southern Counties were numerically badly represented on the Council of the Royal College of Veterinary Surgeons, and their worthy President, Mr. James Crowhurst, became a candidate, and with a little more assistance would undoubtedly have secured a seat on the Council. He (Mr. Toope) thought they ought to unite with the Southern and Western Counties in an attempt to get another member on the Council. There were only two representing all the Southern and Western counties on the Council at the present time, Mr. Burt, of Brighton, and Mr. Dunstan, from Cornwall. It was not fair that the Southern and Western Counties should be only represented by two gentlemen. He had not a word to say against other gentlemen proposed, but he wanted to see the representation more evenly distributed over the country. As matters are it was a very one-sided representation.

The PRESIDENT moved that Mr. James Crowhurst be adopted as a candidate for their support at the next election.

Mr. T. F. HOGBEN seconded, and the motion was carried unanimously.

Mr. G. LIVESEY gave his cordial support to the suggestion on behalf of the Southern Counties Veterinary Society.

Mr. CROWHURST, in agreeing to stand as a candidate, said with him that was no personal matter. He was only anxious to benefit the profession. He was a keen worker, and he had worked earnestly and zealously in the interests of the profession as a member of their Association.

THE ANNUAL DINNER.

This was held at the hotel in the evening. The President, Mr. E. L. Dixon, in the chair, supported by Major Skey, Margate; G. H. Livesey, Esq., M.R.C.V.S., President of the Southern Counties Association; the Ex-President, James Crowhurst, Esq., Mrs. Dixon, Mrs. Stretfield, Mrs. Toope, and other ladies to the number of thirteen. Mr. T. F. Hogben occupied the vice-chair, the gathering in all numbering thirty-eight.

It was unfortunate the Mayor of Margate, J. Booth Reeve, Esq., J.P., could not be present as he had fully intended, a telegram arriving from him during the function.

An excellent musical programme was arranged which interspersed with speech and anecdote gave rise to a pleasant evening. The Misses Hogben (Ash), Miss Mabel Adams (Tunbridge Wells), Mr. Septimus Dixon, M.R.C.V.S. (the President's brother), Mr. Percy Gregory, Mr. D. R. Chalmers, and others, contributing largely to the pleasures of the evening.

THEO. C. TOOPE, M.R.C.V.S., Hon. Sec.

CENTRAL VETERINARY ASSOCIATION OF IRELAND.

[NATIONAL V.M.A. IRISH BRANCH.]

A meeting was held at the Gresham Hotel, Dublin, on the 5th February. The following members were present: Mr. B. P. J. Mahony, President; Messrs. F. A. Heney, A. Watson, J. McKenny, P. J. Howard, J. F. Healy, J. W. Nolans, and E. C. Winter, hon. sec.

The list of members in arrear was gone through, and the Secretary was given a list of names with an instruction to strike them off the roll for non-payment of subscriptions.

ELECTION OF OFFICERS.

President.—Mr. B. P. J. Mahony, Maryboro'.

Hon. Secretary.—Mr. E. C. Winter, Limerick.

Treasurer.—Mr. J. F. Healy, Middleton.

Council.—Messrs. McKenny, Heney, Howard, Holland, Nolans, Moffett, Patrick, and Cleary.

The accounts for 1914 were considered and audited, and showed a balance of £24 odd in favour of the Association.

The Hunting Memorial Fund was then discussed, and it was decided to send £3 3s. as a subscription to this Fund, and the Secretary was directed to intimate to the Committee in charge of the Fund that the Association was of opinion that the best means of perpetuating the memory of the late Mr. Hunting would be to invest the major part of the money in some fund, and devote the annual proceeds to benevolent or scholastic purposes, and to designate it the "Hunting Memorial Fund."

The fact that no Irish practitioners have been recognised as fitted to take a leading part in the proceedings of the International Veterinary Congress (to be held in London this year) was strongly and adversely commented on by the members present.

The following resolution was proposed by Mr. Watson, seconded by Mr. McKenny, and passed unanimously:—

1. "That this Association is of opinion that the practitioners of Ireland should have direct representation on the Council of the R.C.V.S., and it is our intention to nominate a member for the next election, and we look to the Council and the other Associations to support our nominee."

2. It was proposed, seconded, and carried "That Mr. P. J. Howard, of Ennis, be nominated to stand for election to the Council of the R.C.V.S., by this Association."

The SECRETARY was directed to take the necessary steps to bring these resolutions under the notice of the Council of the R.C.V.S. and the profession generally.

"NOTES ON CLINICAL WORK."

By J. W. NOLANS, M.R.C.V.S., BIRR.

Mr. President and Gentlemen,—At our last meeting, in Ballinasloe, I was asked to contribute a subject for discussion at this meeting, and the consensus of opinion was in favour of some notes on cases in general practice. I will now try to bring before your notice a few cases I have met with that were interesting to me, but which I have no doubt some of our older members may have seen before.

Case 1. A brood mare, half bred, about nine years old, having had four foals and now in foal again. I got a message on the 12th April to come and see her. She was showing slight signs of colic. On arrival at the farm I found the mare rather uneasy, lying down and getting up alternately. The pulse about 46 and temperature normal. Gave hypo. morphia sulph. After a little she became quite comfortable, and took some bran mash. I visited again next morning, and was told she had not passed any faeces. Gave an enema when she voided a quantity. For the next week she took slight pains about every twenty-four hours, and I left some colic drinks to be given, which always gave her relief, and she showed complete recovery, and put on condition and looked well.

She was due to foal about the middle of June, and, early in July, I met the owner who told me the mare had not yet foaled, and about the end of July I met him again when he said she was not in foal, and he had sent her to the horse. About the middle of August I saw the owner again and he told me she was home, having passed all her trials. I heard no more until the 20th September, when the owner sent for me to come and see the mare again. She was getting very thin. I attended and found her very much emaciated and an enormously distended abdomen, particularly the lower portion. The day following my visit I got a message to say she was dead. Urgent business prevented me making a post-mortem for two days, which I then carried out.

On opening the abdomen, I found it almost full of fluid, the liver quite yellow and friable, and, just posterior to the diaphragm, a fully developed fetus completely enveloped in all the membranes, and quite intact. On examining the uterus I could not find any sign of rupture, but such may have occurred, as decomposition was far advanced.

Case 2. A hunter colt, with a very large umbilical hernia which had been previously operated on by quacks on two occasions.

I cast the animal under chloroform, and having disinfected the part, opened down through the sac until I could see the bowels. I then dissected out the sac, and having serrated the inside of the internal abdominal ring, sutured the edges of the ring together with strong eucalyptus tape, one continuous suture. I then removed portion of the outer skin and sutured the edges together, when I allowed the animal to rise. But much to my surprise, on the colt standing up the sutures evidently burst, and about two feet of bowel appeared,

hanging pendulous. I quickly cast the animal, disinfected the exposed bowel and returned it, put in interrupted sutures in the abdominal wall, much deeper than the previous ones, and then applied a large wooden clamp to the outer skin. This, I am pleased to say, had the best of a result, the whole hernia entirely disappeared.

I record this case as I have been most unsuccessful with umbilical hernia, having had a number of cases of tetanus following, also cases where the internal abdominal ring did not close. But most of my failures have been in three or four year old horses, and I shall be pleased to hear from the members the most satisfactory way of dealing with the cases.

Case 3. A valuable hunter, about seven years old, belonging to a penurious client, who, having occasion to move his furniture from an old residence about nineteen miles away, thought the cheapest way was to employ his hunter, which had previously been in harness. Borrowing a cart he sent his hunter for a load of furniture, and while the cart was being loaded the horse had a feed of oats, bran, and chopped hay. The driver then started on his way home, and when about three miles from home, the horse stopped and refused to go any further. He was sweating profusely, was taken out of the cart, and walked in. I saw him about twenty minutes after his return. He was standing in his stable with all his legs propped out under him. Head down, and quite wet and cold with perspiration. Pulseless and no rise of temperature. I diagnosed the case as rupture of the bowels. The horse died in about three hours. Post-mortem: Rupture of stomach.

I bring forward this case as this horse never at any time showed signs of vomiting.

Case 4. A bay mare, about seven years old, working at carting the previous day.

I was called to see her early in the morning, the owner stating she was sitting on her haunches trying to be sick. On arrival I found the mare as described by owner, and it was very difficult to get her on her feet, which, however, we eventually did, but she soon returned to her old position. I gave her a hypodermic of strychnine gr. 1 and repeated same in about two hours, when she appeared slightly better. After about three doses this mare stood up and began to look for food, and ceased her attempts at vomiting, and next day was perfectly well. I may mention her pulse and temperature were normal throughout.

Case 5. A valuable hunter gelding, five years old, lame near hind stifle, which was dropsical. This had been blistered about four times without any improvement. I passed a needle into the dropsical swelling, and drew off about two glasses of fluid. I then injected tinct. iodine, half an ounce, and repeated same in three weeks. The horse was in great pain for about two days after each injection, but after about three months on grass he became perfectly sound, and remained so, hunting up to date, and all the swelling has disappeared, so that the owner refused a very large price for him.

Case 6. A hunter gelding, aged, lame on near fore leg for about three weeks when I was called to see him. I examined the leg carefully but could not find anything to account for the lameness. I tried the foot without finding any evidence of lameness, but was of opinion, as I told the owner, that the horse was lame in its foot, so applied a blister around the coronet. Saw him in about a fortnight, but could not determine actual cause of lameness.

Lameness in foot not being sufficient for the owner, I tested the horse with a hypodermic of cocaine, which proved my case. The owner now wished to have the horse unnerved, but I postponed the operation to the autumn when he would be required for work; but dur-

ing the summer in a shed (being summered in) he got inflammation of the bowels and died. The owner sent me his foot, in which, on sawing down vertically, I found a long thorn which had gone through the coronary band, and with the repeated blisters had grown with the horn about one-third way down the hoof.

An animated discussion followed, in which all the members took part.

The proceedings terminated with a hearty vote of thanks to Mr. Nolans for his excellent paper.

The Queensland Horse Industry.

About ten years ago a Royal Commission was appointed to consider, take evidence, and report as to what steps could be taken through the medium of legislation, and in other ways, to improve the horse stock of Queensland. High class stud stock has been imported by the Government, and the examination of stallions by veterinary inspectors, in connection with their place upon the show grounds have been mainly the efforts made to assist the progress of the industry. The issue of new regulations in Queensland by the Stock Department in reference to the examination of stallions may not only be an attempt to create uniformity of action with respect to them in the Commonwealth, but to further the general improvement of horse-breeding in the State. No subsidy is to be given to any agricultural society that makes an award to an entire horse, three years and over, that does not carry a certificate of soundness, provided a parade of stallions has been held.—*Horse and Hound*.

Administration of the Cowsheds and Dairies Order.

The following letter has been forwarded to us by a practitioner in Ireland with a request for publication in our pages. We understand that it has not appeared in the *Irish Independent*.

To the Editor of the *Irish Independent*.

Dear Sir,

A startling heading, i.e., "Loathsome conditions," under which you report some remarks of Mr. T. W. Russell, M.P., caught my eye in to-day's issue.

Surely such a condition of affairs cannot have been such a terrible surprise to either Mr. Russell or most of the heads of our public departments who must be quite aware that this is rather the rule than the exception.

As you will see from the enclosed card (not for publication) I reside in a fairly large provincial town, which may lay claim to possessing a good Urban Council, and are under a good County Council. Amongst other blessings we have the "Cowsheds and Dairies Order" adopted since 1908. The officials appointed, with the sanction of the Local Government Board, to discharge the very important duties under the Order were the four relieving officers at salaries of ten pounds each per annum, though we have a qualified veterinary surgeon in the town.

Although the Order is in operation for close on six years, few, if any, reports have been sent in by the inspectors, yet I venture to say, from my own personal knowledge of the conditions that do exist, we are very little, if any, better off than the state of affairs which Mr. Russell describes as "most distressing and disgusting.—Yours, etc.,

"HYGIENE."

DISEASES OF ANIMALS ACTS 1894 to 1911, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.		Out-breaks	Slaughtered.*
	(a)		(a)		(b)		(b)		(b)	(a)	
GT. BRITAIN.											
Week ended Feb. 7	19	22			3	7	93	175	13	61	669
Corresponding week in	1913	...	13	13	6	7	90	170	11	38	358
	1912	...	30	35	4	4	116	246	14	67	1123
	1911	...	23	23	6	11			34	41	571
Total for 6 weeks, 1914	...	...	117	124	12	33	511	1034	90	298	2551
Corresponding period in	1913	...	73	84	21	77	512	1180	68	213	2638
	1912	...	152	174	16	35	890	2283	91	368	4386
	1911	...	132	145	29	80			185	213	2346

(a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked: Essex 1, London 6. Board of Agriculture and Fisheries, Feb. 10, 1914

IRELAND.		Week ended Feb. 7		...		...		Outbreaks	...		...
		...	...	1	9	...	...	4	30	5	34
Corresponding Week in	1913	...	...	...	...	...	...	8	25	4	28
	1912	...	...	...	...	...	...	2	14	2	10
	1911	...	1	1	...	...	...	4	10	2	56
Total for 6 weeks, 1914		...	...	2	29	...	...	21	148	20	128
Corresponding period in	1913	...	...	...	...	...	...	57	114	28	152
	1912	...	1	1	...	...	...	13	124	15	164
	1911	...	3	3	...	...	...	15	126	21	341

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Feb. 9, 1914
 Note.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Gelatin in Microscopical Technique.

Mr. W. Johnson, M.D. LOND., M.R.C.P. LOND., Gull Student, Guy's Hospital, contributes the following to *The Lancet*.

At the Conference of the Sudwestdeutsche Neurologen und Irrenärzte held in Baden-Baden on May 24th and 25th, 1913, Professor Edinger (Frankfort-on-Main) showed several microscopical specimens mounted in gelatin in place of the usual mountant, Canada balsam. As I have had the opportunity, while working in his laboratory, of practising this method, I append details for any who may wish to make use of it. The technique has been developed from suggestions originally made to Professor Edinger by a photographic chemist, Mr. Ralph Liesegang, and has been worked out chiefly from the point of view of utilising it for neurological preparations. It is, however, by no means confined to this particular branch, but can be applied to most pathological work.

Sections may be cut by any of the usual methods—viz., freezing, paraffin, or celloidin. They can then be stained in the ordinary way, and all stains are available with the exception of those which can be extracted from the tissues by immersion in water. This group of exceptions is not large, but, unfortunately, it includes Nissl's method and all others in which the aniline dyes figure. Efforts which we made to fix these dyes in the tissues—as, for instance, by the use of solutions of varying strength of ammonium molybdate—preparatory to placing the sections in water, have proved unsuccessful. Further work may possibly overcome this difficulty.

The staining process completed, the section is put into water and is now without further treatment ready for mounting.

A few essentials must be noted. Firstly, the gelatin solution must be freshly made and the best results are only obtained when the special gelatin, as used for photographic plates, is employed. Of this, 10 grm. are taken and allowed to soak for two hours (preferably overnight) in 100 c.c. of distilled water. When about to be used this solution must be warmed to a temperature of 50° C. by means of a water bath in order to render it sufficiently fluid. It is advisable to filter it beforehand, also at this temperature.

As much of this warm solution is then gently poured on to the slide as can be put on without any overflowing. It is important to pour on as much as possible in order to get a sufficiently thick film of gelatin in the final result. When large sections are being treated it is better to keep the slide on a warm stage, and in the case of frozen or celloidin sections to pour on a thin layer of the gelatin solution first before putting the section in position on the slide. Larger sections still can, with profit, be immersed in the solution for a few minutes beforehand. The preparation is now left exposed to the air, and in the course of a few hours the water evaporates and one is left with the slide covered with a fine transparent film of gelatin in which the section is embedded. This film behaves in every particular like the gelatin film on a photographic plate. It is intensely hard, resists scratching, and can be packed face to face with other specimens without involving the risk of finding them glued firmly together, as is the manner of Canada balsam. Under the microscope a perfectly clear picture is given, and if necessary cedar-wood oil, for oil immersion purposes, can be used.

The great advantage of the method is the economy of time and material which results. There is no tedious transferring from dish to dish for the processes of dehydrating and clearing. Thus alcohol, xylol, Canada balsam, and coverslips are entirely dispensed with, and in addition one does away with the danger of injuring

large brain sections by too much handling. Apparently specimens will keep indefinitely. Weigart-Pal preparations—for which the method is eminently suitable—have been preserved for three years. Serial sections, which require large slides and coverslips, lend themselves to this manner of mounting. Finally, perhaps, botanists may find here a useful servant. Their chlorophyll specimens, being untreated by alcohol, are able to retain their pigment unaltered, and so can be mounted in the natural state.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, Feb. 6.

REGULAR FORCES. ARMY VETERINARY CORPS.

The following to be Lieuts. (on probation):—

C. M. Stewart, G. Williamson, and J. R. Ellison.
Dated Feb. 7.

Hunting Memorial Fund.

Subscriptions received up to 7 p.m., Feb. 11th, 1914

	£	s.	d.
Amount previously acknowledged	223	1	6
Mr. Thomas A. Douglas (F), Kilmarnock	1	1	0
Wm. Tempest Oliver, Trescoe, Tamworth	1	1	0
Capt. D. Macdonald, A.V.C., No. 2 Station, Vety. Hospital, India	10	6	
Capt. J. J. Hilliard, A.V.C., Remount Dept. Calcutta	10	6	
Mr. Wm. Willis, 60 Lillieshall Rd., Clapham	2	2	0
A. C. Kirkpatrick, Vet. Dept., Cape Town	1	1	0
	£229	7	6
<i>Promised</i>			
Central Veterinary Society	21	0	0
Col. Butler, A.V.C.	1	1	0
Mr. F. O. Parsons, Ealing	1	1	0

A meeting of the Sub-Committee of the Fund will be held at the Royal College of Veterinary Surgeons, 10 Red Lion Square, W.C., on Friday, Feb. 20th, at 7.30 p.m.

HENRY GRAY, Hon. Sec. & Treas.

23 Upper Phillimore Place, London, W.

Cheques endorsed "Hunting Memorial Fund" and crossed "The London, City and Midland Bank, Ltd."

Regulations made to govern importations of meat in the United States provide for certification as to ante-mortem and post-mortem inspections in the countries in which the animals are slaughtered. In addition the meat will be inspected by the Department of Agriculture at ports of entry, diseased or otherwise harmful meat being liable to rejection. Afterwards, if sent to packing houses, the meat will come under the inspection regulations applicable to those places. The report of the Bureau of Animal Industry, referred to no less than 792 packing establishments, and hence has surprised many people even in the United States.—*Live Stock Journal*.

Original articles and reports should be written on oneside of the paper only and authenticated by the names and addresses of writers, not necessarily for publication.

Communications for the Editors to be addressed
20 Fulham Road, London, S.W.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1337.

FEBRUARY 21, 1914.

VOL. XXVI.

FOOT-AND-MOUTH DISEASE.

During the last few days, the position as regards foot-and-mouth disease has become ominous. Disease has been found among several cargoes of animals shipped from different Irish ports to England, and on Thursday was confirmed at Lowfell, near Gateshead, Co. Durham, so that we may possibly be on the eve of another serious epidemic.

We know that we have machinery and men upon both islands to deal with the disease: future outbreaks can be quelled, as we have quelled many past ones: but the existing arrangements do not protect us from importations of Continental infection, which are increasing in frequency and it is well that the English and Irish Departments of Agriculture intend to co-operate in an enquiry in this direction. The question of "How we import infection"? is the most serious practical problem the disease offers to us.

It is not impossible that the present outbreaks may have arisen from the simultaneous landing of infected material from the Continent at several Irish ports. Two other facts may be open to more than one explanation. One is that the importation of infection is more common both in Great Britain and Ireland than it used to be. The other is that Ireland, which for many years was certainly less exposed to infection than Great Britain, now seems to be almost more liable.

THE VETERINARY SURGEONS ACT AMENDMENT BILL.

Our Bill was re-introduced to Parliament on Wednesday last, and read a first time. Unfortunately it took a low place in the balloting, and seems to have little chance of becoming law this Session. How many more years it will have to wait before it even receives consideration by the Legislature it is impossible to say; but unless something happens to relieve the present Parliamentary congestion, it seems quite possible that we may be forced to a voluntary subscription to keep afloat till the measure is passed. Our capital will maintain us for a few years yet, but not for many.

ELECTION TO COUNCIL, R.C.V.S.

The following are the names of those gentlemen who have been nominated for the election in May:—

ABSON, J., Sheffield	MASON, A. W., Leeds
BANHAM, G. A., Cambridge	SHIPLEY, W.,
BRITTLEBANK, J. W.,	Gt. Yarmouth
Manchester	SUMNER, H., Liverpool
HOWARD, P. J., Ennis	TOOPE, T. C., Dover

Col. F. Duck, Messrs. F. T. G. Hobday, and J. S. Lloyd have not been nominated, and, presumably, do not seek re-election.

NOTE ON A METHOD OF DIFFERENTIATING TUBERCLE BACILLI FROM THE MORE COMMON ACID-FAST FORMS.

The chief difficulties met with in determining the presence of tubercle bacilli in milk and excreta is the presence of other acid-fast organisms, *e.g.* Timothy Grass bacillus, dung bacillus, and butter bacillus. Stained in the ordinary way these organisms, as we all know, show certain differences both microscopically and in culture; for example, the tubercle bacilli is inclined to be slightly curved, whereas the others are shorter and thicker. But the following method I found, from a large number of examinations I made, to be of the greatest assistance in differentiating the tubercle bacillus from the other "fast" bacilli mentioned.

I make my films and smears in the usual way, care being taken to spread the material uniformly and thinly. They are then stained with hot carbol fuchsin, the films are then immersed in boiling water for two to two-and-a-half minutes without being treated previously with any decolourising agents, such as 25% H_2SO_4 . The slides with films of Timothy Grass bacillus, dung bacillus, and butter bacillus thus treated were found to be decolourised, but the tubercle bacillus retains its stain even after 2½ minutes immersion. In some of the slides I met an occasional tubercle bacillus even after boiling for three minutes. If a film of milk treated in the same manner and boiled from two to two-and-a-half minutes still shows stained bacilli, these may be safely be put down as tubercle bacilli.

In the initial experiments I made my films from cultures of Timothy grass bacillus, dung bacillus, and butter bacillus, grown on glycerine agar. In making films from cultures of these three organisms it is better to make an emulsion in watch glass, otherwise the film would be too thick.

G. GAIR, M.R.C.V.S.

Conon Bridge, Ross-shire.

In Aberdeenshire and Kincardineshire a disease has been discovered among Irish cattle which were sold in these counties in November or December. Mr. William Brown, M.R.C.V.S., lecturer in veterinary hygiene, Aberdeen College of Agriculture, has been consulted by veterinary surgeons on the matter, and he states that the disease is of the nature of intestinal catarrh, and is contagious. A high mortality is recorded, 95 per cent. of animals attacked dying. The disease is prevalent at a number of farms in the Buchan district of Aberdeenshire, where Irish cattle had been bought in. Fifteen animals have died, and there are a number suffering from malignant catarrhal fever.

ABSTRACTS FROM FOREIGN JOURNALS

BOVINE TRAUMATIC PERICARDITIS—APPARENT RECOVERY.

Prof. Moussu records (*Recueil de Méd. Vét.*) an observation of a bovine animal which showed the classic symptoms of traumatic exudative pericarditis. At the moment when a fatal termination was expected, a notable improvement took place; and at the end of a few days the only symptom that remained was an obstruction of the jugulars. The animal had been purchased for the operative practice of students, so a post-mortem examination was made. The foreign body, which undoubtedly had been small, was not found. There was a fibro-lardaceous connection uniting the reticulum to the point of the pericardium, and a voluminous abscess outside the latter. Moussu supposes that the foreign body had only grazed the pericardium without infecting it, and that the exudative inflammation which had been the consequence, and which had manifested itself by the classic symptoms of traumatic pericarditis, had completely disappeared. This explains the "apparent recovery of a traumatic pericarditis.—(*Annales de Méd. Vét.*)

BOVINE TUBERCULOSIS IN MAN.

Le Mouvement Hygiénique has published the results of an extensive inquiry into the characters of the bacilli expectorated by phthisical patients. A large number of these patients had been working in the country, and had had opportunities of becoming infected by the bovine bacillus. Up to the present the inquiry has embraced 147 cases, and in 145 of these the bacilli found have been human ones of pure strain, while in the other two cases a mixture of human and bovine bacilli was present.

The inquiry was extended to cases of human tuberculosis other than phthisical ones, and also to animals. In non-pulmonary cases of human tuberculosis, the influence of the bovine bacillus was more important than in phthisis. Of 35 non-pulmonary cases, 29 yielded bacilli of the human type, and six those of the bovine type. Three of the latter were cases of cervical and abdominal tuberculosis.

Of 28 cases of lupus, 24 yielded human bacilli, three bovine bacilli, and one showed the two types at different places.

Tuberculous cattle, pigs, goats, and horses were examined, and in each case the bovine bacillus was found. In the dog, on the other hand, the human bacillus was found twice (in pulmonary lesions), and the bovine bacillus once (in lesions of the mesenteric glands.)

The significance of these results is clear. They indicate that direct infection between human beings is by far the most frequent and the only serious source of human tuberculosis. Benign forms of tuberculosis may nevertheless be contracted from the bovine bacillus, and these represent about 20 per cent. of the cases of human tuberculosis.—(*Annales de Méd. Vét.*)

JENSEN'S SERUM AGAINST PURPURA HÆMORRHAGICA.

Prof. Fröhner, of Berlin, has published (*Monatsschrift für Prakt. Tierheilkunde*) his experience of the Danish Polyvalent serum against purpura hæmorrhagica which has been introduced by Jensen. This serum is composed of a mixture of ordinary anti-strangles serum and of specific serum obtained by repeated intravenous injections of several varieties of streptococci isolated from horses affected with purpura hæmorrhagica.

The serum is injected intravenously. On the first day of treatment, a dose of 200 grammes (about 6 2/3 fluid oz.) is injected. Half this dose is given on the second day, and, in grave cases, this smaller dose is repeated on the following days.

Fröhner has treated twelve horses with this serum, and obtained nine recoveries, representing a proportion of 75 per cent. As the mortality in purpura hæmorrhagica is generally from 40 per cent. to 50 per cent., Fröhner attributes his favourable results to the employment of the serum. He regards it as a powerful curative remedy, possessing specific properties.

The price of the serum is 35 marks per litre.—(*Annales de Méd. Vét.*)

DRUGS FOR HYPOTENSIVE MEDICATION.

Dr. Felix Dossin, of Liège, has published (*Arch. Int. de Pharm. et de Thérapie*) the result of researches which he has undertaken upon drugs having a hypotensive effect, with special reference to the constancy and duration of their action. The most serviceable drugs he has tested are sodium nitrite and trinitrin (nitroglycerine or glonoin).

He finds that sodium nitrite possesses the properties of constancy and long duration of its action. The fall of blood pressure which it determines is always produced in the dog, as soon as a dose amounting to 3 centigrammes to each kilogramme of the animal's weight (= about 6-13th grain to 2-2 lb.) is administered. The blood pressure, when once lowered, remains low for a considerable time—from two to two and a half hours. This action is always marked and prolonged, whatever the channel by which the drug is administered may be. When the drug is given by the stomach, a stronger dose may be employed, as that is the case with most medicines.

The toxic dose is double the therapeutic dose. The toxicity of the drug is therefore relatively high, but it is possible, as is seen to be the case with other drugs, that the active dose may be lowered in the case of a pathological condition, in which hypertension exists.

The fall of the blood pressure results from a vasodilatation produced in the vascular territories of the limbs, by the action of the nitrite upon the vascular walls. The acceleration of the heart's action which accompanies it depends partly upon an excitation of the accelerator centre of the heart, and partly upon an automatic action of the fall of blood pressure upon the moderator centre of the heart.

Trinitrin also possesses a valuable hypotensive action, but one of a shorter duration than that of sodium nitrite. Given by the stomach, the results are less marked and more inconstant than if given hypodermically.—*Annales de Méd. Vét.*

W. R. C.

Dipping and Disease.

The Daily Leader of British East Africa publishes several columns on this subject. They say "We have discussed the question with the C.V.O., Mr. R. J. Stordy, who, with his usual courtesy, has given us a very clear statement as to the present position."

"It has been stated that the soil taken into a dipping tank by the cattle will prove a great hindrance to successful dipping operations because the iron in the soil combines with the arsenic contained in the dip to form an insoluble compound, or by the process of absorption—the property possessed by certain substances of taking up a liquid into their pores, in other words the physical retention of the arsenic—the strength of the bath is materially reduced. The soil element has been proved to be a much less serious factor in the weakening of the dip than the chemical process of oxidation.

The arsenite of soda—the principal ingredient of the dipping fluid—is more destructive to tick life and more absorbent than the arsenate of soda. The oxidation of the arsenite to arsenate has been demonstrated to occur in the dip, and to be due to the growth of bacteria in the dipping fluid. When a tank is first filled and cattle passed through it the bacterial element is introduced, oxidation commences, and it has been shown that the rapidity and continuation of oxidation varies in different parts of the country; the colder districts being less affected than those possessing a high temperature.

It has now been demonstrated that when a dipping tank has been in use for some time another bacterium is developed which has the power of reducing the arsenate back to the arsenite. One bath was oxidized to the extent of 43 per cent. of its arsenite before reduction commenced; another was oxidized only to the extent of 15 per cent., while in a third, no sooner had oxidation commenced than the reducing process set in.

The experiments recently carried out by the Government Analyst go to prove that heat encourages oxidation. There may, of course, be other factors. This oxidation of the arsenite to arsenate is no new discovery. It confronted the scientists in South Africa, and in our hotter climate we must anticipate an exaggeration of this chemical action.

It is the intention of the Government to appoint a chemist to work in conjunction with Mr. Kirkham, whose sole duty will be to advise farmers in regard to the adjustment of their dipping fluids. Experiments are meanwhile being conducted with a view to obtaining a germicide which will prevent bacterial growth in dipping tanks.

"There is nothing insurmountable in this adjustment of the bath," said Mr. Stordy emphatically, "The difficulty has been overcome in South Africa just as it is being overcome in British East Africa."

While regular dipping will ultimately suppress East Coast fever, farmers must not expect to eradicate the disease after two or three months' dipping, and an occasional death from the disease may occur. It will probably take the East African farmer a year, dipping at three days' interval, to clean his pasture land of infected ticks.

On the highly infected velds of South Africa, referring more especially to Swaziland, the heavy mortality there has been reduced to something like 5 per cent. In

this native territory there are 27 tanks in use. The Swazis fully appreciate the value of dipping, and every week 27,000 head are passed through the tanks, 18,000 every five days, and 9000 every three days.

In Zululand 250 tanks are in working order and the natives are dipping their cattle, and pay for the erection of dippers and the dipping.

It is hoped that the natives of East Africa will follow suit, and during His Excellency's recent tour through Masailand several sections of Masai requested that a dipper be placed at their disposal. A dipping tank has been completed at Ngongo Bagas, and within the next few days the Masai will be instructed in the dipping operation.

In Natal there are 1,500 tanks in use to-day, and to show the confidence which the results of dipping have inspired in South Africa one has only to look at the large and valuable consignments of breeding stock which have been imported to the Union from Britain during the past year.

There are, of course, many arguments advanced against the adoption of a dipping scheme for this Protectorate, foremost among these being:—

1. Trespass of cattle from Native Reserves.
2. Infected areas which have become enzootic (endemic.)
3. Bartering susceptible cattle in Native Reserves.
4. Presence of big game in settled zones.

With the establishing of a general dipping scheme greater supervision over native reserves will be made possible and, at the same time, the stock owner who dips is placed in a position to prevent, either the introduction of disease, or if it is introduced, to eradicate it with the minimum of loss.

In regard to the enzootic Coast fever areas it should be pointed out that the condition is maintained, in the majority of instances, by an annual mortality among calves, frequently adults—a mortality often running to 60 and 75 per cent.

To keep up the infectivity of the testing area at Kamite 49 susceptible adults and three calves have been sacrificed during 1913.

Therefore to allow of his young stock contracting the disease during calldom, a farmer must preserve his pasture lands in a high state of infection, and to do so means considerable disease and death among his young animals.

"The death rate," said Mr. Stordy, "means the difference between success and failure in stock raising, and if enzootic areas are to be maintained at such cost, I fail to see how cattle raising can be a profitable proposition, how farms can be stocked up or how the grading up of cattle can ever be attempted, especially when we remember that there is no natural immunity to East Coast fever; that is to say that the progeny of animals which have suffered from the disease are not born with any resistance to East Coast fever, but must acquire their immunity by passing through an attack of the disease."

It has been proved that cattle, drawn from Borana, Southern Abyssinia and Jubaland, are highly susceptible to Coast fever infection, therefore, if we are ever to hope for the full benefits accruing from this importation—11,263 were imported during 1913—farmers must dip.

With reference to the third argument, "I am of the opinion," said Mr. Stordy, "that if a man advances first the argument that he is unable to stock up, and then when invited to co-operate in a dipping scheme for his own and the country's benefit, states that dipping would render it impossible to get rid of his female stock—the very foundation of his herd—then such a one is deserving of little consideration."

Alluding to the fourth argument, the presence of game in the settled areas, Mr. Stordy said, "I am often

confronted with the statement that unless the Government is prepared to dip the game it is useless for the farmer to dip his cattle."

Apart from the zebra, which may be implicated in the propagation of equine tick fever, it has yet to be demonstrated what other species, if any, harbour tick-borne blood parasites noxious to our domestic animals. So far as East Coast fever is concerned, field observations point to the presence of big game in infected areas as being more beneficial than otherwise, for innumerable ticks are cleansed during their larval and nymphal stages while engorging on the unsusceptible game. Again, many species of antelope do not harbour ticks owing to the secretions of their skins being repugnant to tick life.

Zebra, warthog, eland, rhinoceros, lion, and other vermin harbour ticks, but even if we got rid of all our big game we would still have the tick-infected small vermin to contend with.

If the big game are responsible for tick-borne disease in our animals, all the more reason for the stockowner to dip; if they assist, and some of them do, in the propagation of tick life still the more reason to dip, for by so doing the farmer is always safeguarding his stock and reducing tick infestation of his farm. At each dipping, hundreds of "seed" and young ticks are destroyed, and the adults are either killed at the first dipping or their vitality so impaired that they readily succumb on the second immersion.

It has been further proved that female ticks which have been submitted to the dipping fluid lay fewer eggs and the great majority of those laid never hatch out. (Some ticks are capable of laying from 6,000 to 20,100 eggs).

"I hold no brief for the game. We know it can spread rinderpest and we know that several genera propagate internal parasites communicable to our stock, says Mr. Stordy.

"The game is rapidly disappearing and as colonization extends it is bound to migrate to the remoter districts of the Protectorate, but what I do say is that the presence of game in the settled zones to-day does not hinder the farmer dipping to preserve his stock and by so doing benefit himself and assist his brother farmers in placing the stock industry of this eminently stock country on a sound foundation, which cannot possibly be attained so long as tick infestation of our animals with its concomitant disease remained unchecked."

Settlers in the Kyambu district, who have freed their cattle of ticks by dipping, have drawn attention to the fact that the tick bird (*Buphaga erythronhyncha*)—a bird which sucks the blood of engorged female ticks or feeds on the wounds of animals—has entirely disappeared from their farms to become an unmitigated nuisance to their non dipping neighbours. Most farmers are dipping for the general condition of their stock, for, apart from the eradication of Coast fever, dipping has proved efficacious in the prevention of other tick-borne diseases such as redwater, gall sickness, white scour in calves, and it has done much to stop contagious ophthalmia, check the ravages of mange, lice, and other external parasites, and has saved the farmer from considerable economic loss through the teats of his dairy cows becoming "blind" as the result of tick bites.

The South African authorities are now pressing for compulsory measures. They state:—"Helpful as isolated tanks are to the individual owners, they are yet far from conferring that sense of security to the whole community which exists where every farmer has a tank, through which all the stock are regularly passed." "It is for the backward minority that compulsion is necessary."

"It is that element of compulsion," said Mr. Stordy, "whereby we can ensure the cleaning of all travelling

stock that is essential, and by which alone freer movement of stock will be made possible."

"By the Uasin Gishu farmers' acceptance of my proposals," concluded Mr. Stordy, "the farmers' associations throughout the East Coast Fever non-infected areas of the Protectorate have given practically a unanimous vote in favour of the adoption of the scheme, and the Ulu farmers, with whom I had the pleasure of discussing the matter on New Year's day, resolved, with only two exceptions, to add their support.

"I address the Lumbwa farmers on the 19th inst., and if they accept my proposals—and I sincerely hope they will—I shall be placed in a position to inform the Government that the farming community of B. E. A. is in favour of a general dipping scheme, and to ask for the funds necessary for the erection and maintenance of dipping tanks along stock routes, in native reserves and at other convenient situations, whereby the farmer will be enabled to run his transport or move his cattle without endangering them or the stock of his neighbours."

An American Plea for Tuberculin.

"In Britain, as in America, there are divers opinions with reference to the value of the tuberculin test. In both countries there are those who look upon it as a safeguard to the stockman in the prosecution of his work, and there are others in both countries who distrust its efficacy. The latter view has arisen doubtless because frequently cattle which are pronounced tuberculous by veterinarians who conduct the tests are in many instances among the most thrifty and fleshy of those found upon the farm.

All persons who are at all informed upon the subject agree to the fact that such a disease exists among cattle. The majority of the breeders of Britain are probably committed to the view that it is not seriously harmful. Others there are who believe that its presence in a herd is a standing menace. That is the view of the writer. Experience at the Minnesota University during recent years made it plain that one tuberculous animal in a stable in the winter season, that is the season of housing, was a standing menace to all the animals housed in that stable.

The prejudice that has arisen against the value of the tuberculin test is probably based upon the fact that some animals have been pronounced tuberculous in instances in which the post-mortem failed to show any indications of tuberculosis. Now what did this prove? Simply one of the following things: First, that the veterinarians were unskilled; second, that they may have used ineffective tuberculin; and third, that they may not have been sufficiently skilled to detect the presence of the disease in the animals pronounced tuberculous. These statements are not intended to reflect upon the skill of veterinarians in Great Britain as a whole. Incompetent veterinarians are found on both sides of the Atlantic. Notwithstanding, I can name veterinarians in the United States who have never pronounced an animal tuberculous in which the post-mortem did not justify the conclusion reached.

In the State of Minnesota, in which the writer lives, the stockmen themselves—the breeders of pure-bred stock—are most anxious to have their cattle tested. They accept the fact that tuberculosis in the herd is a menace to its welfare, and they want to get rid of it. In Minnesota, dairy herds may not send milk from their untested herds to the city of Minneapolis and of St. Paul. Is there any such provision in England to protect the consumers of milk?

In a herd in the north of England we tried to purchase cattle. They were, of course, for America, where the test is imperative. Some animals were priced to us

at 30 guineas, that we greatly admired. We would gladly have paid the price, but the owner would not submit them to the test. We could not take them to America without the test. Rather than miss them we would have paid 100 gs. But, no, the test was in the way. Was not that man paying a high price as the penalty for ignorance and prejudices? It may sound well to say of the North of England the free air is unfavourable to tuberculosis, but the fact remains that free and fresh air is not a sufficient guarantee against the invasion of tuberculosis.—THOS. SHAW.

The Live Stock Journal.

CENTRAL VETERINARY SOCIETY. (NATIONAL V.M.A.—SOUTHERN BRANCH.)

The usual monthly meeting was held at 10 Red Lion Square, W.C., on Thursday, February 5th, Professor G. H. Wooldridge, President, in the chair. The following Fellows signed the attendance book: Messrs. G. H. Livesey, J. B. Buxton, P. W. Dayer Smith, R. J. Foreman, W. Perryman, W. L. Harrison, R. Eaglesham, M. Cahill, R. A. Philp, C. H. Sheather, R. Hayhurst, N. Almond, D. Stewart, W. S. King, H. H. Morrow, H. J. Parkin, G. Dunlop Martin, Capt. C. H. H. Jolliffe, S. L. Slocock, W. R. Davis, S. H. Slocock, H. King, W. N. Thompson, and Hugh A. MacCormack, hon. sec. Visitors: Prof. Lander, Messrs. A. T. Crowther and J. T. Edwards.

On the motion of Mr. Almond, seconded by Mr. Stewart, the minutes of the last meeting were taken as read and signed.

Correspondence. Letters and telegrams were received from Messrs. J. Willett, W. Shipley, E. L. Stroud, and J. W. McIntosh regretting their inability to be present.

The HON. SEC. announced the receipt of Memoirs of the Department of Agriculture in India; "Rinderpest," by Major J. D. E. Holmes, M.A., D.Sc., M.R.C.V.S.; and a Description of the Imperial Bacteriological Laboratory, Muktesar, its Work and Products, by Major J. D. E. Holmes, M.A., D.Sc., M.R.C.V.S.

The HON. SEC. was requested to write and thank Major Holmes for the copies.

SPECIMENS.

The PRESIDENT submitted a specimen which was apropos of the discussion; it was an injured navicular bone resulting from the picking up of a nail. The horse was slaughtered after nine days. The nail entered on the outer side of the frog, about halfway between the point of the frog and the bulb. It went in about 2½ inches. The nail was only found the next day as the horse was being brought out. There was no chance of the nail having got into the foot while in the stable, it must have entered on the previous evening. The injury subsequently broke out at the inner heel, i.e. on the side opposite the point of entry. The bursa had evidently been punctured, for synovia was flowing and the soft structures, including the tendon, must have been pierced. On dissection after slaughter the pus present, which was under great pressure, spurted out about 1½ yards. The point of the nail must have injured the back of the bone, and an ulcerated track developed upwards to the left away from the point of entry. The horse had been in excruciating agony, and was destroyed as unlikely to afford a good result. He had suspected a fractured navicular bone. If there had been no infection it might have been worth while proceeding with treatment, but the best result would probably have

been adhesion of the tendon to the back of the navicular bone, and most probably permanent lameness.

Mr. LIVESEY reported a case of a foxhound bitch in whelp, the seventh case of the kind he had met with. The period of gestation was normal. Parturition begun on the sixty-third day, two puppies being delivered alive, while the third was dead. Labour pains then ceased. The speaker was called in and found the dog dull, listless, and only just able to stand, she had a woe-ful expression of face. The pulse was hard and rapid. Evidently she had more puppies to pass, perhaps two or three. On feeling the abdominal walls, to learn the position of the next puppy to be presented, he found that it had not become engaged in the pelvis. He did not know what he had to contend with. The dog was valuable, and he was urged to administer a remedy. He therefore administered a dose of pituitrin subcutaneously, expecting the almost invariable result of increased labour pains. Labour pains did not follow the injection, and the speaker made a careful examination of the general condition. On tapping the animal's sides with the tips of his fingers, it appeared that she was becoming tympanitic. The abdominal walls seemed to be separated from the viscera by a certain amount of gas. He examined, per vaginam, and with the tip of his finger just managed to locate a puppy. He then inserted long forceps, and tried to pull the puppy down into the pelvis, and so through the passage. He found this practically impossible; evidently the puppy was emphysematous and dead. A later examination of the bitch showed her to be still more distended with gas, her pulse more rapid, and general condition more serious. She seemed to be suffering from peritonitis. He could feel one puppy more distinctly than others. Judging from all the circumstances, and from the fact that the bitch did not react to pituitrin he concluded that the womb was ruptured, and, on his advice, the bitch was slaughtered. He found three pups loose in the abdominal cavity. Two were dead; one, a normal pup, had just died. The two dead ones were emphysematous. One was partly jammed in the pelvis. The womb had given way at the left horn, close to its junction with the body of the uterus. The right horn was black, and almost ready to come away under pressure.

In cases like this, it was not always easy to diagnose rupture of the womb until peritonitis had set in and there was distension of the abdomen. When he first saw the bitch, distension had hardly commenced, but in two or three hours it was most marked. Young practitioners might overlook the condition, and endeavour to get away the puppy. Rupture of the womb might therefore reasonably be diagnosed in cases where the organ failed to respond to the administration of such a drug as Pituitrin, and where, on feeling the abdomen, the puppy was more clearly felt in the abdominal wall than in a normal case of parturition.

In reply to the President's enquiry, Mr. Livesey said that he thought the rupture might have occurred through over anxiety on the part of the kennelman; they got into the habit of kneading the sides of the animal.

Mr. ALMOND submitted instances of dilated œsophagus in a horse, this dilation being distinct at the entrance to the thorax. These cases were unique in his experience, and he would seek to know the termination. No inconvenience was caused to the animal, which did its work. In one case the horse was with its owner for thirteen years, and was never in trouble. In another instance the horse was six years old.

On the motion of Mr. Sheather, seconded by Capt. Jolliffe, this question is to be put on the agenda at the next meeting.

"TRAUMATIC MALADIES OF THE FOOT OF THE HORSE."
ADJOURNED DISCUSSION.

Mr. ALMOND thought that the sloughing which followed treads, and was more or less circumscribed and deep, was due rather to infection by the bacillus of necrosis than to the original injury. It was, he believed, closely allied to the necrosis found in the mouth of the sucking calf—localised, deep, necrosed patches, these usually yielding to the application of common salt. He considered that Mr. Davis was to be congratulated on the success of his energetic, if simple, treatment of the puncture due to a fork. The injury, it appeared, was serious. The instrument must have been clean, and, moreover, sharp, to have passed through such a region without leaving greater trouble. The speaker had a few notes on the obscure and acute lameness in the hind foot, due to disease of the navicular bone. These cases gave trouble and caused doubt in diagnosis. In the first case his diagnosis was made after death. Navicular disease of hind foot was very rarely met with; in fact he did not remember meeting it until the case referred to. Two similar cases, since occurring, he had diagnosed by elimination of other causes, nothing but navicular disease accounting for the sudden onset and continuous, acute symptoms. With regard to fractures, William Hunting had pointed out that minor fractures frequently occurred within the hoof, adducing post-mortem evidence in proof. The speaker had had two cases within the last two years. One, a young animal, had shown lameness without any evidence of cause. In both cases the animals had been turned out for a period of four months, or longer, and complete recovery had been effected. Mr. Davis had raised the question whether laminitis should be included in the traumatic maladies of the foot, at the same time attributing laminitis to the absorption of poisons. If that were correct, it would not be right to make the inclusion. But the speaker did not agree that all cases of laminitis were due to absorption of poisons from the uterus or intestines. Again, the speaker held that concussion alone was not a cause of laminitis. Concussion *plus want of condition*, frequently did cause the malady. He knew cases in which horses, after standing, perhaps for a week, would be driven seven, ten, or more miles to market, and then left until the following market. Animals were almost certain, after such treatment, to develop laminitis. After summering, walking practice should be given to hunters before the hunting season, so as to avoid laminitis. He believed all practitioners would be convinced that concussion alone would not cause laminitis, but horses used intermittently and then set to heavy work were liable to laminitis from concussion.

Eating wheat alone in large quantities he regarded as a certain cause of laminitis. The horse filled its stomach unduly, and the dry grain swelled. He would not, however, commit himself to a definite statement, but he felt that some of the trouble was due to fermentation of the mass in the stomach. The cases of laminitis which arose from absorption of poisons from the uterus were among the worst of their kind; they destroyed the use of the animal finally. Mr. Davis had stated (after Prof. Pritchard) that wheaten flour gruel caused laminitis. Mr. Almond said he usually gave his horses oatmeal gruel, he had given wheaten flour gruel without causing harm, and if laminitis followed he should attribute it to a coincidental want of condition. He remembered in the "eighties," when wheat was sold at 18/- a quarter, many farmers used wheat for feeding their horses, and no evil resulted, notwithstanding that it had been damaged by the bad weather of that time. The same remarks were true of barley.

In regard to treatment, the essayist had suggested laxatives, poulticing, and casting. There was no objection, the speaker considered, in giving horses a laxative, and the poultices were useful. As to hot or cold poultices, this depended upon the stage of application; in the early acute stages he prepared warmth, and later cold. The mild stimulus of the cold might not be disadvantageous. Casting he thought very important. With plenty of room, it was rarely necessary to cast a horse more than once. The relief to the animal was generally so great that he would lie down if he could be got up, but this sometimes invited a little trouble.

The question of exercise, the speaker was unaware of anything better suited to bring about the necessary flow of fresh, and therefore reparative, blood in the inflamed foot, than a moderate amount of exercise; nothing was more curative, or essential.

Mr. EAGLESHAM much appreciated the way in which Mr. Davis had dealt with traumatic injuries to the foot. In connection with treads, which he had found common, he shared the view of Mr. Perryman—that there was always septic infection from the beginning through the tread. He agreed with the author that, in the treatment of treads, warm poultices at the onset were the most useful. He did not care much for the subsequent use of antiseptic bandages, especially in the case of cart horses. The animals were apt to rub the bandages with the opposite foot and cause irritation of the granulating wound. He had found the open wound treatment the most successful.

He was of the opinion that the case of fractured navicular bone mentioned by the author was due to an injury, probably caused through treading on some blunt object.

With regard to the treatment of gathered nails, the most important matter was the proper cutting out of the feet: Mr. Davis had great faith in injecting antiseptics into the track of the nail, but he (the speaker) believed the proper treatment was the thorough paring of the horn around the puncture. In the treatment of suppurating corns and pricks similar measures should be carried out.

In reply to an enquiry as to the proper manner of cutting out, the speaker said that in the case of a gathered nail where the frog was affected, all underrun horn should be removed. Likewise the case of the sole and where there was great lameness it was even necessary to thin the sole all over in order to relieve pressure. The after treatment was very simple poulticing, antiseptic foot baths, followed by a dry dressing, *e.g.*, Boracic acid.

In respect to shoeing feet affected with corns, he thought a threequarter bar for the inside heel a good shoe for big feet, also a threequarter shoe suited small feet very well.

Mr. SHEATHER did not think it possible to cut out corns sufficiently. In the case of pricks or binding nails the whole sole should be thinned as much as possible, and not the track of the offending nail alone explored. He was of opinion that laminitis might occur from concussion. He recalled a case of a horse operated on over 15 years ago for roaring. The horse was left in the box for six weeks. It was then taken out and galloped, laminitis supervened the same evening, and the animal had to be destroyed in a few days.

Some argument arising, the speaker declined to attribute the laminitis to want of condition alone. He argued that the condition would not have arisen unless the horse had been galloped.

In another case laminitis had been induced in a hunter in condition by galloping on frosty ground.

Mr. SLOCOCK was of opinion that laminitis should not be included among the traumatic injuries of the foot. He attributed the malady to irregular feeding and want

of condition, and it was found in horses that had been lying idle in the stable. The growth of horn was a fair indication of a horse's state of health. A horse at grass never had laminitis, the growth of horn was always good. With stabled horses that were not exercised, the faulty growth of horn came with age. In such cases there was a tendency to acute laminitis, careful feeding being necessary as well as exercise to avoid the evil. The phase of laminitis which trended towards traumatic affection was the bruising of the laminitic sole. Suppuration under the sole might arise from bruising by stones. One form of nail injury resulted from horses treading on box lids or pieces of wood having nails sticking up.

The speaker disagreed with Mr. Davis in regard to the cutting down of the frog in searching a foot, believing that the frog could be searched without destruction. The frog was a provision of nature, and there could not be a strong foot without it. The peculiarity about a horse with a frog injury was this, that there was seldom a nail in a frog without a shot joint; this knuckling of the joint occurred in 19 cases out of 20 where the nail was hidden in the last two-thirds of the frog. The horse would refuse to tread on his heel. The speaker never advocated the paring away of the frog unless he were satisfied that there was an injury. He agreed with Mr. Sheather that it was necessary to pare all round the point of entry—the whole surrounding surface, otherwise further trouble might be expected. The fracture of the navicular which had been mentioned must have been caused at some previous time. Lameness was most apparent after the animal had rested for a few minutes. The wings of the os pedis were often fractured, accompanied with suppuration of the heel, and he had had to remove the detached piece of bone before attaining any success.

Mr. Slocock was pleased that mention had been made of the sudden lameness. An injury might have been known to have been caused for a week or more, followed by sudden lameness during a journey. It seemed to the speaker quite easy to imagine, yet veterinary surgeons differed in giving evidences in these cases.

[Some discussion here took place between Mr. Sheather and other gentlemen as to the probability of laminitis arising from concussion independently of the want of condition in the horse.]

The PRESIDENT heartily congratulated Mr. Davis upon his presentation of the paper. It was the practical kind of paper that always aroused a good discussion. He (Prof. Wooldridge) was of opinion that laminitis, where two feet or more were affected, was not a traumatic affection, at all events as he understood the term traumatic. Traumatic affection implied affection associated with a trauma (or wound). In the case cited, he would have ruled out the idea of traumatic affection. Actual traumatic laminitis was to be met with, where the inflammation of the sensitive laminae was due directly to some injury or violence. Was it due to concussion or to absorption of toxins from the intestine? He would at once admit that he did not know the cause of laminitis. Mr. Sheather had shown that concussion could certainly in some cases be the exciting cause, whatever might be the predisposing cause, as bad feeding, etc. In the instance mentioned, concussion was the exciting cause. In other cases it could occur without any concussion, as for example, when secondary to metritis. He considered that Mr. Davis's method of casting the horse in the box was one which would commend itself to the profession. The speaker had himself rarely found it necessary to cast a horse for laminitis; if the horse could support himself fairly well he put him in slings, it answered equally well and reduced the chance of bedsores, but should the animal not support himself comfortably in slings they should be

removed, when he would, in most cases, lie down without the need of casting.

Mr. Davis had suggested that the bedding should always be left down in the cases of laminitis, and the speaker agreed, but added that the bedding should consist of short litter, long litter was liable to get entwined round the animal's foot and cause inconvenience. With short litter there was a certain amount of distributed pressure over the sole and frog, which in some cases was desirable. In that respect the treatment would fall into the same category as that suggested by Mr. Perryman when he said that the foot should be reduced and the wall pared away. The President agreed that the walls should be reduced as far as the white line, but not farther. The sole should be thinned to relieve tension and pressure, as suggested by Mr. Sheather. In regard to medicine, he (Prof. Wooldridge) could not understand why Mr. Davis preferred oil; personally, he avoided drenching a horse having laminitis if he could help it, using, in preference, a full dose of aloes. Although some of the Fellows objected to aloes, the speaker had not seen any evil effects from its use. Either a full dose of aloes, or a half-dose of aloes with a full dose of calomel he considered the best thing in the first instance; in any case the bowels should be well opened.

In the treatment of laminitis no reference was made to hypodermic injection of adrenalin over the plantar arteries. The speaker, in cases of laminitis, injected as much as 40 minims of adrenalin (1-1000) diluted with the same amount, or twice that amount of normal saline solution. By means of this injection over each plantar artery and throbbing was reduced, also the excessive congestion of the sensitive lamina. By reducing the congestion, the danger of extravasation from the vessels, which causes separation, was diminished, and the prospect of the descent of the pedal bone, which followed the separation, reduced.

On the question of nails in the foot, the specimen he had shown would illustrate his unfortunate experience in that respect. He considered it a mistake to pare out the nail track immediately. The first thing to do, especially if the nail had been embedded a long time, was to procure a strong disinfectant—he preferred equal parts of carbolic acid and glycerine—then remove the nail, and pour the disinfectant into the nail track before any cutting was done. Immediate cutting introduced dirt and other material into the track, ruining the possibility of disinfecting the track. Subsequently the nail track should be pared out, and a compress packed over it. If the injury had been neglected for a long time, and suppuration occurred, the necessity for opening up the track was the greater. In such a case as he had submitted, however, in which he was not consulted until nine days after the occurrence, even the treatment suggested would have been useless, as the nail had passed right through into the navicular bone itself. Slaughter was the only possible solution.

Mr. Davis had carefully described the operation he thought necessary in some cases where the navicular bursa was affected, of reflecting the frog, cutting the tendon, and scraping the area of the os pedis where the tendon was inserted. He recalled that Prof. Macqueen had, in the course of a lecture, expressed the opinion that the operation was an insane one. It was certainly a heroic operation, but sometimes it was difficult to distinguish between heroism and foolhardiness.

As to corns, he differed from Mr. Davis in the latter's disposition to attribute all corns to shoeing for the reason that corns were not found in unshod horses. Mr. Willett had seen them in unshod feet. While agreeing that shoeing might be responsible for corns in many cases, the speaker considered that in many more shoeing had nothing to do with it; in some instances it was due to contracted feet, in which normal expansion of

the hoof did not take place when the weight was brought down on the foot. The result was pinching and bruising of the sensitive structures at the place where expansion should be at its greatest; that was responsible for the bruising of the sole and laminae in the heel which was designated "corn." Mr. Perryman had enquired whether treads were due to actual injury or to infection. The President believed the ill effects of treads to arise in both ways. Direct injury or violence was sufficient to impair the vitality of the tissues without infection, causing them to die and slough; this was followed by an open wound some days later. In other cases a minor injury to the coronet, arising from other causes, had become infected, when a similar condition was produced. This was called a tread, but probably was no such thing. In some instances necrosis, due to the necrosis bacillus, occurred; these were, indeed, the most painful conditions of the coronet that he had met with. Metastasis might also take place, the horse finally dying from necrotic lesions in the lungs due to infection of the blood stream from the coronet.

He joined issue with Mr. Almond on the question of the conditioning of hunters being directed solely, or even mainly, to the prevention of laminitis, taking the view that it was less a matter of the condition of the foot than the condition of the heart and lungs; congestion of the lungs being more to be feared when hunting with a horse out of condition. Then, the inability of the heart to cope with its work led to the blood being imperfectly driven through the lungs, with the result of acute venous congestion.

REPLY.

Mr. DAVIS said he thanked the Fellows for the compliment paid to his notes in the adjournment of the discussion. He attributed it to the choice of the subject rather than to any merit in the notes themselves. Mr. Perryman and several other gentlemen had contended that violence was not the cause of treads, and that the only determining cause would be the scratch. The horse scratched the skin about the coronet, and the part became infected with microbes. He would ask why this did not occur higher up, on the leg? Why only at the coronet? He believed that treads were due to violence. The animal began to scratch, and, liking the sensation, continued, getting more violent as he went on, as Shakespeare said, "Appetite grows with what it feeds on," and the more he scratched the more violent his action.

With regard to the treatment of treads, the speaker did not advocate poultices, preferring the application of cotton wool with an antiseptic, bandaged on and kept as clean as possible. In all cases where there was a suppurating wound of the foot he would argue in favour of antiseptic treatment.

He did not believe that laminitis was ever purely a traumatic disease. Prof. Wooldridge had limited the word "traumas" to wound, but any injury to the body due to violence is traumatic—results of concussion for instance. As stated, in the speaker's opinion, laminitis was never due to concussion; if it were, why did it arise by absorption of toxins from a wound? Sir John French had stated, during the Boer war, that horsemastership should be taught, so that there should be no injudicious feeding, producing laminitis. Mr. Mackintosh had told the Fellows that he was in charge of about 900 horses, and did not, save very rarely, find a case of laminitis, notwithstanding that the animals were very hard worked. Although Mr. Mackintosh could not account for the fact, he (Mr. Davis) attributed the immunity to the circumstance that Mr. Mackintosh fed his horses on oats and hay. He had not seen a case of laminitis for six months, but where he used to live he had fifty cases for every one he had now.

He remembered being called in to a mare that on returning from plough was found to be ill. The mare was hanging back in the stall and breathing rapidly, the temperature being 104°. The artery at the jaw was suspiciously hard under the finger. He diagnosed laminitis, and gave the mare a dose of his despised oil. He went home, but was sent for again. This time he found the fellow mare, which had been hard at work ploughing all day, in the same condition as the first one. He suspected bad feeding, but the owner replied that both animals were fed on oats and hay. Investigation, however, showed that the mares had been given wheat. The ploughman had stolen a sack of ground wheat meant for the bullocks. The laminitis in these cases could not be due to concussion, as the mares had been ploughing on soft ground.

The speaker then narrated the circumstances in which a chestnut horse and a black mare had been let by a jobmaster to carry twelve persons a journey of thirty miles. At a certain town the horses were taken out, and the man in charge found that the chestnut horse refused to eat, and, to tempt him, procured a shillings-worth of flour which he mixed with cold water. The horse, which had been purged, still refused the food, and, in order not to waste it, the man gave it to the black mare. The chestnut horse recovered himself during the homeward journey, but the black mare broke down on reaching home, and had to be carried into the stable and developed acute laminitis. Another instance. He had had at New Orleans the veterinary charge of horses collected for shipment to Africa in the Boer War, after 5000 horses and mules were in the yards. They were fed mainly on American bran (4/5). Cases of laminitis were always occurring, yet the animals were kept in covered yards or at pasture. These instances could not be due to concussion. He made strong representations for alteration of rations, and such alterations were, after a time, effected, when there was a complete cessation of laminitis.

In regard to treatment, Mr. Davis differed from Mr. Sampson and Prof. Wooldridge. In both laminitis and azoturia it was absolutely imperative to empty the bowels. The best aperient in these diseases was oil; the worst aloes. He admitted that a ball was easier to give than oil, but we were seeking an efficient remedy—not one easy to give. The dose he had given the two mares was 2 oz. of Liq. ammon. acet. conc. (1—7) put in a champagne bottle filled with oil and a similar one was left with orders for half to be given in six hours, and the rest in another six hours.

He was astonished to hear that Prof. Wooldridge and two past-presidents of that Society put horses affected with acute laminitis in slings; the object of putting them in slings was to relieve the pressure on the feet, and he considered it a great deal better that the animals should be at once put down. This, of course, did not apply to slight concussion, where the foot was a little bit sore, but to cases of acute laminitis, where the horse stood with his two fore feet advanced, as though they were riveted to the ground, and his hind legs a long way under the body, with retracted belly, accelerated breathing, dilated nostrils, and the artery of the jaw as thick as a little finger. In these cases, he believed a horse might, under rational treatment, be rendered as serviceable to his owner as before. Not so treated, the horse might be made to go in discomfort and pain for the remainder of its life. Prof. Wooldridge had said that the horse would lie down if taken off the slings, but the speaker denied this; if a horse were thrown and allowed to get up, he would remain standing. As David Harum said, "Hosses don't know but dreadful little really. Talk about hoss sense, wa'al there aint no such thing."

Mr. Almond had referred to exercise, but he (Mr. Davis) would regard as hard-hearted treatment the exercise of a horse suffering from acute laminitis. Prof. Reynolds had suggested the use of arecoline, and undoubtedly it was good treatment, but the speaker had known this to be followed by fatal results, whereas the use of oil was not. Casting by means of ropes in the way described was quite easy. He had explained it in a case of a very fine horse which had received an injury to a fore coronet. This horse had been put down twelve times in six days without bother by farm hands. That established the advantage of the method.

In connection with gathered nails, Mr. Davis related his own experience, how a nail had pierced his own foot in which he had rejected the medical man's suggestion of treatment by lotion in favour of crucial incision and antiseptics. In another case, which happened on the same day, that of a young man who, while assisting to save lives at Galveston, when it was swept by a tidal wave, met with a similar accident, lotion was applied to the injury; the young man died from lockjaw within a fortnight. It might be thought a counsel of perfection to use antiseptics to the depths of the wound in such cases. He always introduced carbolic acid, etc., into the track of the nail with a hypodermic syringe, although he had sometimes to put the horse down to effect his purpose. As to the removal of all the horn in cases where there was suppuration from pricks or in cases of corn, it was unnecessary to make such a breach in the hoof; gauze soaked in antiseptic would heal the place up, and the animal was ready for work much sooner.

POISONING BY CASTOR SEED.

A contribution on the above subject by Dr. Lander, was the last item on the agenda.

On the motion of the President, who stated that Dr. Lander was agreeable, it was decided to postpone the reading of the paper until the next meeting. The motion was seconded by Mr. Perryman.

VOTE OF THANKS.

Mr. STEWART proposed, and Mr. King seconded a vote of thanks to the author of the paper on "Traumatic Maladies of the Foot of the Horse."

The meeting then terminated.

HUGH A. MACCORMACK, Hon. Sec.

NORTH OF SCOTLAND VETERINARY MEDICAL SOCIETY.

[NATIONAL V.M.A.—SCOTTISH BRANCH].

The half-yearly meeting was held in the Lecture Room of the North of Scotland College of Agriculture, Aberdeen, on Saturday, Jan. 31st. The following members were present: Messrs. Anderson, Keith; Brown, College of Agriculture; Bell, Fraserburgh; Cumming, Culter; Crabb, jun., Aberdour; Clerk, Stonehaven; Howie, Hon. Sec., Alford; Ironside, Cluny; Kerr, Ellon; Marsden, Past-President, Banff; Morrison, New Deer; Marshall, President, Aberdeen; McPherson, Huntly; McVean, Craigellachie; McBryde, Strichen; Peddie, Dundee; Sievwright, Tarland; Skinner, Old Meldrum; Sinclair, Newmachar. Visitors: Messrs. Hugh Begg, Veterinary Inspector for Lanarkshire; Alex. Johnstone, Rothie-Norman; Robson, Laurencekirk; and Lornie, Hatton.

Apologies for absence were received from Messrs. Crabb, sen., New Aberdour; and Niven, Kintore.

The minutes of last meeting as they appeared in the veterinary papers were taken as read.

Mr. MARSDEN, Banff, who occupied the chair at the commencement, said that his term of Presidentship now

closed, and he thanked one and all for the assistance and courtesy extended to him during the period he occupied the chair. They had discussed several matters of importance, and in one or two ways their position had been improved. The raising of their County Council fees had been satisfactorily looked after in Aberdeenshire, though not in Banffshire. Apparently no further action in this direction was to be taken meantime. He had great pleasure in introducing Mr. Marshall, Aberdeen, as their President for the current year, and would now vacate the chair in his favour.

Mr. MARSHALL, in accepting office, paid a high compliment to Mr. Marsden for the able way he had discharged his duties, and for helping, during his period in the chair, in carrying out several matters in the best interests of the profession. (Applause).

New Members.—The following were elected: Messrs. A. JOHNSTON, Fyvie; H. W. ROBSON, Laurencekirk; and W. S. LORNIE, Hatton of Cruden.

The CHAIRMAN hoped that the members would do everything in their power to increase the membership of the Society.

Correspondence.—The SECRETARY read a letter from the Royal Sanitary Institute asking the Society to appoint a delegate to the annual Congress to be held at Blackpool from July 6th to 11th.

On the motion of Mr. Anderson the letter was allowed to lie on the table.

THE LATE WILLIAM HUNTING.

The PRESIDENT referred in sympathetic terms to the death of Mr. William Hunting. He spoke of Mr. Hunting's high professional qualifications, and stated that it could be truly said that he lived for his fellow men. It was decided to record the Society's sympathy in the minutes, and that an excerpt be sent to the relatives of the deceased.

Mr. BEGG, Inspector for Lanarkshire, gave particulars regarding the Hunting Fund which he hoped would receive the benevolent consideration of members of the Society. He thought there was no man in the profession but who had been influenced in some way by the late Mr. Hunting.

Mr. PEDDIE also paid a high tribute to the work and worth of Mr. Hunting, and commended the Fund.

THE LATE MR. MORRISON.

The PRESIDENT also made sympathetic reference to the death of Mr. Morrison, of Rhynie, and moved that the Society's regret and loss be engrossed in their minutes, and that a copy be sent to the family.

The SECRETARY paid a compliment to Mr. Morrison's personal worth and professional capacity, and observed that he died in harness, and, sad to relate, he was a victim to anthrax.

After some discussion, it was agreed that the Society subscribe £1 1s. to the Hunting Fund, and the feeling expressed was that the members should also subscribe individually.

A letter was read from Mr. F. W. Garnett, Windermere, thanking the Society for its subscription to the International Congress Fund. He asked Mr. Howie to thank the members for their generous support.

Financial.—The SECRETARY submitted the financial statement for the year which showed a credit balance of £3 14s. 3d. He considered that if their Society was to be of greater value to the profession, they should make it stronger financially, by increasing the membership subscription, which was very low compared with similar bodies in the South. He would move at the next meeting of the Society that the subscription be raised. The report which was considered satisfactory, was adopted.

Title of the Society.—Mr. CUMMING gave notice that at the next meeting they discuss the title of the Society.

He thought that the Society's identification with the National Veterinary Association should be made more prominent.

PRESIDENTIAL ADDRESS.

W. MARSHALL, M.R.C.V.S., Aberdeen.

Gentlemen,—Let me again express to you my thanks for having elected me as your President for the ensuing year. It was with some diffidence that I undertook the duties and responsibilities of the post, especially in these eventful times. I duly appreciate the kindness and the honour you have done me, and I will endeavour, as far as in me lies, to serve your interests. I am assured of the co-operation and help of our able and valued secretary, and I also hope to receive the help and support of individual members.

Perhaps we as members have not in the past interested ourselves sufficiently, nor given what support we might have done to this important Society. Now the time has arrived when the necessity for more frequent meetings and conferences between members becomes more evident and pressing, and more especially in the North, where almost every practitioner is an Inspector under the Diseases of Animals Acts. He is entrusted with the carrying out of the work under such important orders as those for anthrax and tuberculosis, which, to be successful should be carried out uniformly, and this can only be done satisfactorily by each of us discussing fully the important details of these orders.

I am glad to see that individual societies have been linked up to one central association—The National. This will undoubtedly strengthen the profession, and we will be able to present our views and our demands to the proper centre with greater effect.

It has been the custom in the past for a new President to make some remarks on important current topics, but I may be pardoned, if on this occasion I depart from that line and make a few statements on the changes and advancements that have taken place in our work as veterinary practitioners during the past 25 years.

Going back to the old college days, we remember that the curriculum was only a three years course, whereas nowadays a crowded four years course is required of the students, and a much more searching entrance examination. Both these have served to raise the status of the practitioner. We can all look back with gratitude to the assiduity and conscientious interest of our professors, but how much more ought the student of to-day to feel grateful for the additional advantages, the greater development, and much improved equipment of the Colleges.

A few new diseases have been added to our list, but the etiology, pathology, diagnosis, and treatment of many diseases which were very imperfectly understood are now, as the result of the researches of the pathologist and the careful observation of the clinician, more thoroughly understood. Much yet remains to be done. The study of bacteriology has done much to throw light on the diagnosis, prevention and treatment of various diseases, and this science is destined to do much more. A number of diseases such as anthrax, glanders, tuberculosis, Johne's disease, quarter evil, strangles, swine fever, tetanus and various fevers have been shown to be caused by the introduction into the body of micro-organisms of the lowest class of life. Here they multiply rapidly in susceptible subjects and produce chemical ferments and deadly toxins. To Pasteur, Koch, and others we owe much for the investigation of the life history of many of these pathogenic organisms and the pathological conditions to which they give rise. Septicæmia was shown by Ogston to be produced by various organisms, and since then new treatment has

been devised. Marmorek, of the Pasteur Institute has introduced a special polyvalent antistreptococcic serum for veterinary use. It should not be confounded with the same name for human use which, although prepared in a similar manner, is derived from various strains of streptococci of human origin, and those differ from organisms of equine origin. In fact nowadays bacteriologists believe that organisms can be modified by the particular body in which they operate, and that the best results are got from vaccines and serums prepared from the actual organisms found in the lesions. The human serum has been proved to be beneficial in some forms of purpura hæmorrhagica in the horse. Marmorek serum has proved beneficial in many suppurative conditions, in erysipelas, in strangles, in which disease the substance strangaline, a particular vaccine, has proved useful. The serum is also valuable in influenza, purpura, retention of the placental membranes and in gangrenous mammitis. Vaccines made from these organisms have also proved efficacious in the prevention and cure of joint ill in calves and foals, and ought to be largely made use of.

The pathology of toxæmia is also better understood. It is the products of the organisms that enter the blood stream. There is no doubt that many of these toxins are elaborated in the alimentary canal, more especially in the case of cattle, and are accompanied by such conditions as impaction, constipation, and enteritis, and are often responsible for the brain symptoms we sometimes get in these diseases.

Some years ago Behring discovered the substance known as anti-tetanic serum, which has been largely employed, not only as a prophylactic agent but also in the treatment of tetanus. When the disease is well advanced the serum is seldom of much value as a curative, but as a preventive, and in the early stages it has given very good results. Its value as a prophylactic is so great that it should always be used when punctured and septic wounds are under treatment, or where major operations have to be performed. It should probably also be used in new-born foals on farms where the disease has previously existed.

For blackquarter we have vaccines which are of great prophylactic value. A vaccine for anthrax is also in use in countries where the disease is indigenous and wide spread, but in this country where there is no hope of stamping out the disease, as it is generally introduced by feeding stuffs and manures, it is probably better and cheaper to insure than to vaccinate.

In 1896 Bang discovered the organism of contagious abortion, and the Board of Agriculture have made considerable advancement in the elucidation of the disease. A definite diagnosis can now be made by means of the agglutination test, and the Board hope that they will soon be able to prevent this scourge by vaccination with pure cultures of the organism.

Good work has been done with regard to swine-fever, distemper, braxy, and louping-ill, although research on these is still far from being completed. Advancement of our knowledge of diseases abroad has also been progressing rapidly. To mention only one—the serum and bile treatment for the prevention of rinderpest has given excellent results.

In the treatment of all diseases we are now recognising the value of pure air, good sanitary surroundings, a plentiful supply of pure water, a suitable quantity and good quality of food, clothing, and a general attention to the comfort of the patient. This occupies the first place in the treatment of animals, more especially in the prevention and treatment of diseases of the respiratory organs. This is followed by the rational use of therapeutics, which has supplanted the empirical system. The more accurate clinical knowledge of disease, its symptoms, and their significance has enabled us to select more suitable remedies, and the results

have undoubtedly been more encouraging. In fact, nowadays, so wide is the field of the science and art of our profession in every branch that one has to specialise along whatever line circumstances dictate.

The treatment of the diseases of the smaller animals has progressed so rapidly that some have devoted their whole time to this interesting and profitable branch.

Further, the veterinary surgeon is more and more recognised in the sphere of preventive medicine, and new and important fields have opened up to us in view of the more stringent supervision of disease demanded for the protection of human and national health.

Our methods of diagnosis are becoming more exact. For example, rectal examination may yield valuable information in disorders of the organs in the pelvic cavity, and in colic manual examination enables us to discover the condition of the bowels. When violent straining occurs when the hand and arm is introduced into the rectum, it is often symptomatic of acute intestinal obstruction due to impaction or twist. In the former condition we often find the rectum dilated or "ballooned." One can readily recognise an impacted colon or tympanitis of this part of the viscera, sometimes also the presence of a calculus, and very often a twist. Rectal examination enables us to ascertain the condition of the bladder; is very valuable in the diagnosis of strangulated hernia, thrombosis of the iliacs, strain of the psoas muscles, abdominal tumours and pelvic fractures. Digital examination in dogs may reveal the presence of bones in the rectum and enlarged prostate glands.

In tuberculin, discovered by Koch in 1890, and considered at first to be a cure, we have a most reliable diagnostic agent for tuberculosis.

In 1891 the substance mallein was discovered as a diagnostic for glanders.

During recent years more and more use is being made of anaesthetics, and those who have been using those agents can appreciate the relief from pain and suffering to the animal as well as the greater facilities given to the operator. Anaesthetics are quite as useful in animals as in man, and few important operations are now performed without either a local or a general anaesthetic. Local anaesthesia produced by cocaine or eucaine, combined with adrenalin to stop bleeding, is quite sufficient for superficial operations or for operations on the limb, but general anaesthesia must be used to reduce hernia, and in all cases where one is working in proximity to important organs. I prefer to administer chloroform to horses in the standing position if there is plenty of room to allow the animal to move about. The horse seems to take it better in the standing position, and one knows that when the animal falls anaesthesia is generally complete, and the operation may be commenced.

Advancement has also been made in the administration of medicines. The older method of drenching has given way to the administration in the food, drinking water, in bolus, as electuaries, or hypodermically or intravenously, with more satisfactory and less harmful results.

Medicines calculated to bring about phagocytic action are now largely used, such as nuclein and saline solution administered hypodermically or intravenously, and have given good results. In colic, as a result of a better knowledge of its pathology, clinicians now greatly favour the use of stimulants such as carbonate of ammonia, nux vomica, and when a sedative has to be given, chloral hydrate has to a large extent taken the place of tincture of opium. Eserine, arecoline, pilocarpine, and barium chloride give good results when indicated.

The discovery of a successful treatment for milk fever by Schmidt has conferred enormous benefits on veterinary science, and on cattle owners throughout the world. Chloral hydrate and treacle were the principal

drugs formerly used, and though a few animals did partly recover, a large number lay for days or weeks, and ultimately had to be butchered. The death-rate was about 90 per cent. Compare this with the present-day treatment by injecting an antiseptic lotion, air, or pure oxygen into the udder—the death-rate is infinitesimal.

By the discovery of the Potassium iodide treatment for actinomycosis, Thomassen has conferred an incalculable benefit. In the early stages of the disease this treatment is extremely successful, whereas formerly the disease was incurable.

Time does not permit of my speaking at any length or in detail of specific changes in treatment, but it occurred to me that these few remarks might be interesting and profitable, and I hope that they will stimulate the young members more particularly to the desirable practice of recording their experiences, so that our information may be increased and our means for comparison enlarged.

In other directions great changes affecting our work as practitioners has taken place. Motor traction threatens to reduce our earnings, but new fields are always opening up to us. It seems obvious that the veterinary surgeon to-day occupies a much more important position than he did a few years ago. From the present and the past, to my mind, we have no reason to despond for the future; for perhaps at no time have the prospects of the profession been brighter, and there is likely to be much more interesting and useful work for us to do.

I should just like to say in closing that, in these times of rapidly changing conditions, it is urgently desirable that we should have more frequent meetings and discussions, so that by our collective experience and information we may be enabled to keep pace with the times and to arrive at the best and wisest decisions; and that when mutual action is required it may be united and efficient.

THE WORKING OF THE TUBERCULOSIS ORDER.

By ADAM KERR, M.R.C.V.S.

When I was asked at our last meeting to give a paper, it was suggested later on that I should take as my subject the Tuberculosis Order, and my experience in the working of it. Since the Order came in force in the County of Aberdeen on Oct. 1st, 1913, I have had a total of ten cases. Without exception these have all been cases, or suspected cases of "tuberculosis with emaciation." Out of the ten cases eight have been slaughtered and two still remain alive. The majority of these cases were reported to me either by the owner or the police. One or two of them I discovered in my private practice. That is to say, I was asked to examine the animals privately, and had no hesitation in saying that they came within the scope of the Tuberculosis Order. I have only seized one animal in the Ellon market, a milk cow, but more about her later on.

I think it will be the most profitable and instructive method if I relate to you my most interesting cases and the method of procedure adopted.

Case 1 was an aged milk cow, standing in a dairy byre, with a chronic cough, and very emaciated. The case was reported by the owner. After my examination I came to the conclusion she was tuberculous. As it was my first case under the Order, I was very anxious not to make a mistake and land the county into extra expense and myself into disgrace in the very beginning. I decided to apply the tuberculin test. She reacted beautifully, was slaughtered, and the post-mortem justified my opinion.

Here I should like to say there has been no difficulty in this case nor in the others in coming to an arrange-

ment with the owners with regard to the valuation. Of course, the animals have all been "piners" and were worth nothing more than the price of the hides.

Case 2. A nine months old calf. I was called to this case privately. The animal was very emaciated, and had been treated by me for lung trouble a few months previously, along with another one of the same age. The latter died showing symptoms of tubercular meningitis. The former apparently recovered for the time, and then gradually began to waste away. After my examination I came to the conclusion that this was a case of tuberculosis with emaciation. I could not apply the tuberculin test, as the animal's initial temperature was 105° F. The case was duly reported and the animal slaughtered. I could not have believed that such an amount of tuberculous corruption could have been present in so young an animal had I not seen it for myself. Every organ in the body was involved.

The question which puzzled me in connection with these two cases was where and how did these young animals become infected with the disease. Assuming that no calf, or at the most 1 in 1000, is born with tuberculosis, I examined the other animals, and found them apparently healthy. I began a "Sherlock Holmes" method of investigation with the owner, when he informed me that he had lost a cow last summer with tuberculosis. These two young animals had been housed beside her, and received her milk. Hence the source of infection.

Now I think this proves the soundness of the system which is being adopted by most breeders, viz., removing the calves from their mothers as soon as they are born, and only allowing contact during the times of suckling. I may say that I have tested over 60 animals during the past fortnight, some of them for exportation and some of them for the February sales, and of those herds in which this system is adopted every animal has passed the test. I am of opinion that this case refutes the statement of those who hold that we will never eradicate or reduce the number of cases of tuberculosis by simply killing off the "piners." They say these animals would have died or been slaughtered sooner or later, and that the county authorities are simply bearing the loss for the owner. Well, there can be no doubt that by killing these animals promptly we are removing one of the most fruitful sources of infection, and my experience of the average farmer is that he will hold on to his tuberculous cow so long as she is giving a supply of milk.

Cases 3 and 4 I shall take together, as they are somewhat similar. The first was a young animal about a year old, reported as a case of tuberculosis with emaciation. I examined the animal, which was very much emaciated, and with a history of chronic diarrhoea, but could not find any clinical symptoms beyond the diarrhoea. The lungs appeared healthy, the pulse and respirations were normal as also the temperature. There was no cough, the skin was soft and pliable, and the animal had a fairly good appetite. The tuberculin test was applied with negative result. I had previously informed the owner that it would not surprise me if the animal did not react as I had seen this sort of case before, and had killed them expecting to find tuberculosis of the bowels, but no tubercular lesion could be found, only a catarrhal condition of the bowels due probably to Johne's disease or some parasitic affection. The diagnosis I gave was chronic catarrhal enteritis and the case was closed.

The other case similar to this one was a five years old milk cow reported as a case of tuberculosis with emaciation. On my arrival at the farm, I discovered that the animal had been down for four days and had eaten nothing all that time. We tried to get her on her feet, but it was of no use, so I had to examine her where she lay, and you all know how unsatisfactory that is.

The fact of the matter was I could only say that there was weakness and emaciation. The temperature being normal. I tested her, giving 4 cc. and went back at the 6th hour; the temperature, however, never varied a point all the time. I then agreed with the owner to treat her. I have not seen her since, but I have seen the owner, who informed me that since she was put on to the powders she improved day and daily. She can now rise of her own accord, is chewing her cud and eating all she gets.

These two cases have brought home to me this lesson—that we must be very careful in our examinations if we are not to make mistakes; and they have also convinced me that every case of emaciation may not be due to tuberculosis. I think also where there are no positive clinical symptoms but only a marked emaciation we should safeguard ourselves against pitfalls by subjecting the animals to the tuberculin test, giving a good stiff dose—4 cc. at least, and taking the first temperature at the sixth hour; and in the case of an old animal up to the 21st hour.

Case 5. A six year old black polled cow. She belonged to a crofter, who sent me a letter to come and see his cow. I called the following day, when he told me that a country butcher had seen her in the morning, and told him that she was full of tubers, and had practically bought her for 10s. I examined her, and on the clinical examination alone I assured him that the butcher's diagnosis was right. I asked if he himself knew what was wrong with her, and also if he had read the Tuberculosis Order, and he replied in the negative. I then put myself in communication with the butcher who had bought her, and advised him to have nothing to do with her. I told him that he had bought an animal knowing her to be tuberculous and had not given any notice to the police, and so might land himself in difficulties. Needless to say he was very glad to take my advice. The animal was slaughtered in the name of the original owner and found to be full of tuberculosis.

Now, gentlemen, I wish to ask your advice on this case. Did I do right in communicating with the butcher? Or should I have told the police to serve an isolation notice on the butcher and allowed him to slaughter her at his own risk? Of course the butcher told me that he bought her simply for the price of her hide, but one never knows what might have been done with the carcase had the case not come under my notice. Taking all things into consideration I think I acted rightly, if for no other reason than that it may serve as a warning to those men who go about the country buying emaciated animals.

Case VI. Aged milk cow, seized in Ellon Market. There are cases where dealing with one's own clients one would require to be possessed of some special tact, and this is a case in point, and one which you will perhaps forgive me for quoting in full. This animal belonged to a client, and not a very good client at that—I mean financially. He had been owing me an account for over two years, and I had sent him a note the previous week to the effect that his account was considerably overdue. Well, we met accidentally in the market that morning and he paid his bill. Afterwards, I was taking a look through the market and came across this emaciated animal; I took her number, went to the salesman and asked the name of the owner. You can imagine my feelings when I was told it was my friend who had paid his account in the morning. Of course there was nothing for it but acquaint him with the fact that he would have to remove her from the saleyard, and that I would examine her later on. At first he was inclined to be rather displeased with me, but I produced a copy of the Order which I always carry in my pocket on Market days, and which I was surprised to learn he had never read or even seen before. Much against his

will the cow was taken home. I called a day or two later and made a further examination, and although I was convinced she was tuberculous, in case of error I decided to apply the tuberculin test. But he refused to allow me. He would isolate her, he would give her milk to the pigs, he would send her to Aberdeen, he would kill her himself, he would do anything except allow her to be tested. I reasoned with him, but all to no purpose. When asked what he expected for her in the market, he said £6 or £7. Well, I said, we would value her as non-tuberculous at £5, but the 30s. if tuberculous stuck in his throat, so I had no alternative than to report the case to headquarters. Mr. Murison (County Clerk) replied that if I was of opinion she was tuberculous without applying the test, I was to come to an arrangement with the owner as to the value and have her slaughtered. The terms of this letter were made clear to the owner, and after that I had no more trouble with him. The animal was tested and reacted, slaughtered, and found to be suffering from generalised tuberculosis.

These are some of my most interesting cases. I am very sorry I have not yet discovered a case of tuberculosis of the udder. I have had several cases of mastitis, and on examination have found beautiful chains of streptococci, but I have not yet found the tubercle bacillus in milk. I have even examined the milk from the previous emaciated cases, although there was nothing wrong with the udder, but the result has always been negative. I am inclined to think that tuberculosis of the udder must be somewhat rare.

I wish to ask a few questions for my own information :

(1) Are we expected to serve an isolation notice on a cow at calving with an indurated quarter and a blind teat to that quarter? I have no doubt some of you have noticed this condition among cows at the market. They are sold as correct except that they have a blind teat. As yet I have not seized them, as I saw it would be very difficult to prove. They had tuberculosis of the udder if no milk could be got from the indurated quarter.

(2) When we are called to examine an animal privately and find it is a case for the Order, who is to be charged for the first visit? The owner, or the county, or both?

(3) What exactly constitutes a set of certificates under the Tuberculosis Order?

(4) Are we expected to visit the premises afterwards and see that the cleansing and disinfection has been properly carried out?

(5) How many visits are we justified in making to take the temperature when an animal is tested? If we get a reaction on our first visit in the morning do we consider that sufficient?

DISCUSSION

Mr. HUGH BEGG, F.R.C.V.S., Veterinary Inspector for Lanarkshire, referred to the enthusiasm of the Lanarkshire County Council in stamping out disease, and mentioned that that body had put the Tuberculosis Order in operation at the earliest possible moment. He described the steps that had been taken by the Lanarkshire authority to bring the Order under the notice of stockowners. Large bills embodying the provisions of the Order were put into the hands of every owner of stock in the county. He feared that for a time little attention was paid to the Order by stockowners, for when the inspection of dairy cows was commenced his assistant and himself came across some flagrant cases of tuberculosis of the udder that should have been reported. They considered the propriety of prosecuting some owners at that period, but were averse to such a course, as he was aware of the ignorance with regard to the Order that prevailed among many stockowners. In order to bring home to stockowners

their responsibilities they circulated cardboard placards on which was printed a synopsis of the Order and these were distributed to farmers by the hands of the policemen. Those who now plead ignorance have no excuse, and the other day a prosecution had been brought, a man having been fined £2 for a contravention of the Order. Other prosecutions for failure to report are in process. He believed that would be a cheap and effective means of impressing on cattle owners the provisions of the Order—very much better than the circulation of bills which often got torn and were thrown aside. (Hear, hear). Their intention now was to make it apparent by prosecutions and the reporting of them in the press that they meant to enforce the application of the Order. Their main object to-day was to discuss the details of the veterinary inspectors' work in operating the Order. It should be remembered that while veterinary inspectors were expected to get a clear idea as to the manner the Order might be extended, or amended, if need be, they should focus their opinions as to what advice they might give to their respective local authorities; it would be well that their position under the Order should be well defined and more or less uniform. All local authorities were practically agreed that the Order was a very good initial step in the great campaign against tuberculosis. There might be different views with respect to the financial clauses of the Order. Up to now he thought the Board of Agriculture's reluctance to widen the scope of the Order had been well justified. They were entitled to demand that before more heroic steps were taken there should be satisfactory evidence that those who were to carry out these measures had gained some experience in connection with the operation of the present restricted Order. It would be the duty of all progressive authorities in the near future to knock loudly at the door of the Board of Agriculture and demand the inclusion within the scope of the Order of all open cases of tuberculosis. He referred particularly to pulmonary cases which should be included very soon. Indeed we could hardly escape recommending that all tuberculous animals suffering from pulmonary trouble should be included even though, in the absence of expectorate they could not be proved to be open cases. Many such cases were already losing flesh and no one could predict how soon they would become open cases. Veterinary surgeons should recognise that a great task was confidently entrusted to them by the Board of Agriculture, and it was for them to show their fitness for the task. (Applause). As neighbouring inspectors they should treat each other as gentlemen, and he reminded them that since in Aberdeen county the area of an inspector's private practice was not co-terminous with the district allocated to him as veterinary inspector, they should not hesitate, if need be, to report cases on their own clients' farm to be dealt with by another veterinary inspector. He thought the Aberdeen County Council was liberal in that so many were employed. They ought to avoid raising any friction that might lead the authority to reconsider the question.

Replying to Mr. Kerr's queries, he would be loth to serve isolation notices on every animal unless he had good reason to suspect that it was suffering from one of the forms of tuberculosis covered by the Order. If an inspector visited a farm under the Tuberculosis Order, the County Council would have to pay him, but if the visit was made by an inspector in the capacity of a private practitioner, then the owner of the stock was liable. It would surely be easy for inspectors to differentiate between the two kinds of visits.

Mr. BEGG explained the methods adopted in Lanarkshire in connection with the condemning and valuing of tuberculous animals. He held that as the veterinary officers gained experience the scope of the Order would be extended. Mr. Runciman had given hints that that

might be done soon. He (Mr. Begg) pointed out that in the South of England veterinary inspectors had decided that in the case of an animal valued at less than £10 no tuberculin test should be applied. He outlined a scheme which he thought would operate well in quickly ridding the herds of advanced cases of tuberculosis.

Mr. CUMMING said that strange to say he had very few piners to look after since the Order came into operation. The procedure he followed was that when called to see a case he made a valuation. The owner signed the valuation report. After he had made a clinical examination, and if necessary applied the tuberculin test, the consent of the owner was got right away. That saved reports and visits.

Mr. HUNTER said tuberculosis was a nasty thing, but he thought there was far too much made of it. He was not certain that it could be communicated from cattle to the human subject.

Mr. HOWIE gave his experience of having found two cases of tuberculosis of the udder. He had no difficulty in detecting the bacilli. He had as much of the fluid as would be ample for a slide or two if any member desired such. The Order, he contended, had not been properly advertised in the county, and he would meantime deprecate any prosecution until he was convinced that every farmer knew he was committing an offence under the Order by having a tuberculous animal in his possession. Under the present instructions two visits in most cases were all that were necessary. There were two sets of reports, and if there was a tuberculin test another set was necessary. They had nothing to do with cleansing or disinfecting, that was a matter for the sanitary authorities. They had nothing to do with the isolation of animals, they had no power to see that isolation was carried out. The County Clerk decided whether the animal was to be slaughtered.

Mr. BEGG said the Board intended the veterinary inspectors to serve the isolation notices, also the notices with regard to disinfection, and gave instructions as to how these should be carried out. The sanitary authorities had absolutely nothing to do with the Board of Agriculture's Order.

Mr. MORRISON said that, in the case of seizing an animal at a mart, the inspector was certainly supposed to serve the isolation notices. The owner would tell where the animal was to be removed to.

The PRESIDENT urged on inspectors adopting uniform methods in carrying out inspection, and in reporting cases.

Mr. BEGG, in replying to a question, said that in order to increase the amount of compensation payable by the Board, an inspector was entitled to deduct from the salvage recovered, the expenses of float and slaughtering.

Mr. CLARK asked if, in the event of a milk sample proving positive on a smear by microscopical examination, whether a guinea-pig should be inoculated with the sample in order to clinch matters.

Mr. BEGG said certainly not. If acid-fast bacilli were found in the smear from a milk sample drawn directly from the suspected quarter of the milk cow it could be relied on that the acid-fast bacilli are tubercle bacilli, and the need for biological experiment did not arise.

The PRESIDENT said that in Aberdeen he had full power. If he wished to seize an animal, one visit was sufficient. Certainly any emaciated cow below the value of £4 should be seized.

Mr. BEGG said the whole point was that veterinary inspectors should be given a free hand in the condemning of animals under the Order.

Mr. HOWIE said that every man would just have to use his discretion.

The PRESIDENT thanked Mr. Kerr for his paper, and Mr. Howie, in proposing a similar compliment to Mr.

Begg, referred to his high professional abilities and the unusual knowledge he possessed in connection with the administration of the Tuberculosis Order.

Mr. KERR read a short paper on "Veterinary Ethics," but owing to want of time the discussion was postponed until the meeting in August.

It was agreed that by the time next meeting was due, the International Veterinary Congress would have been held. Therefore those members who had been able to be present would give an account of the proceedings for the benefit of those who had been unable to get to London.

A hearty vote of thanks to the President for his conduct in the chair brought the business meeting to a close.

Mr. MARSHALL, in acknowledging, invited the members to assemble at the front of the College buildings for the purpose of being photographed, and said he would be very pleased if each member would accept a copy from him as a memento of the occasion.

[A reproduction of this photo will be issued with our next number].

THE DINNER.

At the conclusion of the business meeting, the members dined together in the Royal Hotel. Mr. Begg was also present. Mr. Marshall presided, and gave the loyal and patriotic toasts. Mr. W. Brown and Mr. Peddie, Dundee, replied for the Army and Territorials respectively.

PRESENTATION TO MR. HOWIE.

Mr. SKINNER handed over on behalf of the Society to Mr. Howie an illuminated address, veterinary instruments, and a set of books for his valuable services to the Society since its inception more than 20 years ago. He said it was almost 30 years ago since Mr. Howie and he sat at classes together, and his brilliant success as a student was still fresh in his (Mr. Skinner's) memory. It was almost 20 years since Mr. Howie aided very materially in founding the Society, and his wise and kindly counsel at the time he (Mr. Skinner) could not forget. During the existence of the Society Mr. Howie had rendered many valuable services to the institution in his capacity as member, President, and as Hon. Sec. In the latter capacity he excelled. (App.)

On behalf of the Society Mr. Howie undertook many long journeys at not a little inconvenience and entirely at his own expense, and he had done much in furthering the cause of those more concerned with the administration of the Contagious Diseases Act. To that section of the Society he had given valuable aid. At one time the Society showed signs of depression, but thanks to the tact and energy displayed by Mr. Howie at the crisis, a shipwreck was averted, and the Society stood now on as sound a basis as any other institution of its kind in this country. (Applause.) They were all deeply sensible of the gratitude which they owed to Mr. Howie, and they had decided to show their indebtedness in a practical way. Brilliant scholar, able veterinarian, a business man of splendid capacity, and above all a thorough gentleman in all his dealings, Mr. Howie had won in a marked way the respect and gratitude of them all, and the honour that was done to him at the hands of the Society was richly merited. (Applause.) Mr. Skinner concluded by handing the gifts to Mr. Howie, and hoped that the good wishes of the company would be fully realised. (Applause.)

[The presentation comprised:—Huish's Revelation Mouth Gag, A System of Veterinary Medicine (Hoare), Diseases of the Dog (Müller), Veterinary Pathology, 2 vols. (Friedberger and Fröhner), Regional Veterinary Surgery (Dollar), Neumann's Parasites (Macqueen), Veterinary Hygiene (Smith), Clinical Bacteriology and Vaccine Therapy (Scott), Surgical Diseases of Dog and Cat (Hobday), Walley's Meat Inspection (Stockman)].

Mr. Howie's health was drunk with enthusiasm, the company singing "For he's a jolly good fellow."

Mr. HOWIE, in acknowledging, said he was deeply touched by the kind words of Mr. Skinner, and he heartily thanked every one for their gifts as a mark of any little service he had rendered to the Society. All men were born with talents; any little he had lay in organisation. From all the officials and members of the Society he had always received the utmost courtesy and the most valuable assistance. These he thanked, and also those who accompanied him on deputation and other business. As he liked very much the work associated with the Secretaryship, they might count on him for a while yet. (Applause).

PRESENTATION TO MR. W. BROWN.

The PRESIDENT then handed to Mr. Brown, Lecturer in Veterinary Hygiene, Aberdeen University, a framed address and a set of books in recognition of services rendered to his professional brethren—lectures and demonstration at Marischel College. The President referred to Mr. Brown's brilliant career as a student, to his special training in France, to the practice of his profession in England and then in Aberdeenshire, and finally to his selection as lecturer in veterinary hygiene in Aberdeen University.

Mr. Brown's health was then drunk with musical honours.

[The gift of books comprised:—Special Pathology (Hutyra and Marek), Traité de Thérapie Chirurgical (in preparation), Parasitology of the Domesticated Animals (in French, by Neven Lemaire), Sisson's

Veterinary Anatomy, Veterinary Pathology (Friedberger and Fröhner), Diseases of Cattle, Sheep and Goats (Moussu), Veterinary Toxicology (Lander), Veterinary Hygiene (Smith), The Elements of Bacteriological Technique (Eyre), Practical Bacteriology (Besson)].

Mr. BROWN, in replying, said the gift was more than he could have ever hoped for. It was only two or three years ago he joined the Society, and he must say that he had received great benefit from it. If plenty of young men had got the opportunities which he had got he was sure they would have done much better than he did.

Mr. Brown gave a short account of the instruction he got at Paris and mentioned that he was to get a fully equipped research laboratory from the Scottish Board of Agriculture. He hoped members would consult him on any matter on which they thought he could be of service to them. (App).

Mr. BEGG gave "The North of Scotland Veterinary Society," and urged unity of action. He was delighted to see that in the north they had such a healthy and progressive Society.

Mr. CUMMING acknowledged the toast, and mentioned how frequent meetings and discussions on important matters bearing on the profession, would help them all.

Mr. SIEWRIGHT proposed "The Visitors," and Mr. Begg replied.

Mr. HOWIE gave the health of the newly elected President, and Mr. Marshall, who replied, thought they should at least meet three times in the year.

This concluded the proceedings.

GEORGE HOWIE, Hon. Sec.

DISEASES OF ANIMALS ACTS 1894 to 1911, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.		Out-breaks	Slaughtered.*
	(a)		(a)		(b)		(b)		(b)	(a)	
GR. BRITAIN.											
Week ended Feb. 14	20	23			3	4	98	160	13	62	748
Corresponding week in	1913 ...	15	16		5	7	87	159	11	25	218
	1912 ...	25	28		1	2	118	200	17	59	985
	1911 ...	23	27		6	55			30	39	459
Total for 7 weeks, 1914	137	147			15	37	609	1194	97	360	3299
Corresponding period in	1913 ...	88	100		26	84	599	1339	79	238	2856
	1912 ...	177	202		17	37	1008	2483	108	427	5271
	1911 ...	155	172		35	135			215	252	2805

(a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked: London 2, Middlesex 1, Board of Agriculture and Fisheries, Feb. 17, 1914 City of Edinburgh 1

IRELAND.											
Week ended Feb. 14	...	...	...	...	2	...	Outbreaks	33	7	60	
Corresponding Week in	1913 ...	...	...	...	4	...	...	21	6	5	
	1912 ...	...	...	...	4	...	...	19	1	6	
	1911 ...	...	...	...	4	...	...	22	2	67	
Total for 7 weeks, 1914	...	...	2	29	23	...	...	181	27	188	
Corresponding period in	1913 ...	...	...	...	61	...	...	135	34	157	
	1912 ...	1	1	...	17	...	...	143	16	170	
	1911 ...	3	3	...	19	...	...	148	23	408	

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Feb. 16 1914
NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

Foot-and-Mouth Disease.

The existence of foot-and-mouth disease was confirmed on Friday last, 13th inst., in the Birkenhead Irish Animals landing place amongst Irish animals which had been landed for the purpose of slaughter within the landing place, the Board of Agriculture and Fisheries made an Order prohibiting until further notice the landing in Great Britain of any cattle, sheep, goats, or swine from Ireland. The Order, however, permitted of the landing for the purpose of slaughter within the recognised landing places of animals already *en route* from Ireland.

The diseased animals in the Birkenhead Irish animals landing place were slaughtered, and all necessary precautions taken to prevent the disease from being conveyed by mediate contagion out of the landing place.

19th February.

The existence of foot-and-mouth disease has been confirmed to-day amongst cattle at Lowfell, near Gateshead, County Durham.

The usual precautions have been taken to prevent the spread of the disease, and an Order has been issued prohibiting the movement of animals in a large area surrounding the affected farm.

In the House of Commons, on Monday :

Mr. CRUMLEY (Nat. Fermanagh, South) asked the President of the Board of Agriculture whether now that no further outbreak of foot-and-mouth disease had occurred in Ireland for the past three weeks, he would remove the restrictions against the removal of fat and store cattle from Ireland to the markets in Great Britain.

Mr. RUNCIMAN : On Thursday evening last, the veterinary inspector in charge found very suspicious lesions in certain swine which were about to be slaughtered in the landing place at Birkenhead. An examination on Friday morning satisfied him as to his diagnosis of foot-and-mouth disease. Moreover, that same morning he found undoubted evidence of the disease in seven cattle forming part of a separate cargo. The swine had been landed from Waterford on Sunday, the 8th ; the cattle from Newry, on Tuesday, the 10th. Later that day disease was discovered in ten cattle forming part of a cargo landed from Dundalk, on Tuesday, the 10th. The vessel in which these cattle were carried returned to Ireland, and on Thursday, the 12th, landed swine from Dundalk, which showed lesions of the disease when examined alive on Friday evening. On Friday evening and Saturday morning disease was discovered in animals forming parts of four other shipments, namely, three arriving on the 10th from Belfast, Dublin, and Waterford, and one arriving on the 12th from Dublin. This cargo came on the same vessel as that which arrived on the 10th.

In these circumstances I have had no alternative but to prohibit the landing in Great Britain of animals from Ireland for the present ; and it may be well to state that under the most favourable circumstances there is no possibility of the trade being resumed for at the very least a fortnight from to-day.

Mr. C. BATHURST (U., Wilton) asked whether, in view of the alarm which this statement must cause to British stock-owners, the right hon. gentleman was satisfied that the inspection at the five Irish ports of embarkation was adequate.

Mr. McKENNA : The inspection at the five Irish ports has been better done during the last few months than it has ever been done before.

PARLIAMENTARY.

In the House of Commons on Friday, Feb. 13.

The following Bills were presented and ordered for second reading on various dates :

* * *

Col. WALKER (Lancs. Widnes, Opp.).—Bill to amend the Diseases of Animals Acts, 1894 to 1911, in respect of the exportation of horses.

Thursday, Feb. 18.

The following Bills were presented and read a first time :—

Mr. C. WASON (Orkney and Shetland, Min.).—A Bill to prohibit the vivisection of the higher animals.

Mr. SANDERSON (Westmorland, Appleby, Opp.).—A Bill to amend the Acts relating to the practice of veterinary surgery and medicine.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, Feb. 13.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Lieut. F. B. Gresham to be Capt. Dated Jan. 10.

Maj. E. E. Martin, Army Veterinary Corps, has been appointed Commandant of the Army Veterinary School from April 1st next.

His Majesty the King held a Levée on Feb. 17th, at St. James' Palace. The following Noblemen and Gentlemen attended :—

* * *

Vet.-Capt. G. Rees-Mogg, F.R.C.V.S., 1st Life Guards.

Personal.

Among the arrivals by this week's mail was Mr. R. Paine, F.R.C.V.S., one of the most popular Government Veterinary Surgeons in the Province. When it was rumoured that he was going home on a holiday at the beginning of this year, a testimonial was organised for him ; but owing to his unexpectedly early departure, there was not sufficient time to get in completed. This, however, has now been done, and Mr. Paine was presented on his return with a handsome purse and an influentially signed testimonial, among the signatories being the following :—Right Hon. J. X. Merriman, Sir Thos. Smartt, the late Hon. J. W. Sauer, Col. W. E. M. Stanford, Mr. C. W. H. Kohler, Mr. J. C. Faure, Mr. H. Pickstone, Messrs. Starke Bros., Messrs. James Rawbone, M.P.C., H. Urtel, E. Lange, and the Hon. H. de Villiers.—*Cape Times*, Dec. 5.

OBITUARY

Mr. ALEX. W. M'KEAND, whose death was announced in our issue of Feb. 7, had not been in good health for some time. He was closely connected with the farming industry in the Machars district of Wigtownshire, and in addition to his private practice was veterinary inspector under the County Council for the parishes of Penninghame, Wigtown, Kirkcowan, Kirkinner, Mochrum.

A CORRECTION.

Dear Sir,

Please allow me to state that in your issue of Feb. 14th, my quotation referred to on page 535 is wrongly reported, and to prevent further misconception I beg to refer your readers to Section 44 (General Administrative Provisions) in the Handbook of Diseases of Animals Acts and Orders, etc.—Yours faithfully,
WM. CAUDWELL, M.R.C.V.S.
Chertsey, Feb. 17.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1338.

FEBRUARY 28, 1914.

VOL. XXVI.

THE USE OF SERUM AGAINST SWINE FEVER.

The Departmental Committee upon swine fever has issued a second interim report, which is solely concerned with the possibilities of serum and vaccination treatment. The report itself is short, but the inclusion of minutes of evidence and an appendix consisting of two official reports bring it up to nearly 40 pages. The whole is well worth reading, and the following is a brief summary of the main points.

The Committee have received information regarding the use of serum against swine fever in Holland, Hungary, and the United States. Special official enquiries have been conducted in Hungary and Holland by Lieut.-Colonel Sir Edward Clarke, Bart., Superintending Inspector of the Board of Agriculture, and by Messrs. Wragg and Broome, two of the Board's veterinary officers. The Committee have also considered two reports of independent enquiries by Mr. J. M. Harris, Vice-chairman of the Bacon Curers' Association of Great Britain and Ireland, and Mr. J. Higginson, M.R.C.V.S. In addition, Sir Edward Clarke and Messrs. Wragg, Harris, and Higginson have given evidence before the Committee.

The results are far from supporting the claims which have been advanced in some quarters for the serum treatment. The Committee conclude that "no satisfactory evidence was obtained to show that effective immunisation by artificial methods can safely be employed, except in conjunction with isolation and restriction on movement." They proceed—"In Holland serum has been supplied free, on demand, to veterinary surgeons during the past two years, and some 6000 inoculations appear to have been recorded. The method followed is to inoculate the pigs on infected premises with serum alone, relying on fortuitous infection to complete the process of active immunisation. This treatment is regarded as being still in the experimental stage. It is claimed that the use of serum reduces the number of deaths in the case of outbreaks. Evidence was given that in certain districts swine fever is very prevalent, but precise information is not available, as the disease is not scheduled, and outbreaks are not officially reported."

"In Hungary serum inoculation has been employed experimentally, in conjunction with isolation and restriction on movement, to a considerable extent. Experiments are now being commenced with simultaneous inoculation with serum and virus. In this country also it is claimed that the death rate on infected premises is reduced by the use of serum, but the statistics did not show any diminution of the prevalence of the disease."

"The official reports from the United States of America show that serum inoculation has been

employed much more extensively and for a longer period than in either Holland or Hungary, without effecting any reduction in the prevalence of the disease. The annual losses from swine fever have greatly increased, and appear to be still increasing. It is a matter of doubt whether the growing prevalence of swine fever may not be due to the spread of infection by inoculated pigs."

Finally, the Committee state their opinion that inoculation with serum alone affords too brief immunity to be of practical value; that every known method of vaccination, or simultaneous inoculation with serum and virus, exposes the inoculated animal to risk and renders it infective to others; that existing methods of inoculation do not promise assistance in the eradication of swine fever, though they might be serviceably employed in connection with a policy of control; and that further experiment is necessary with a view to finding a form of vaccination which will give active immunity to the inoculated animal without risk of further loss and dissemination of the disease. They conclude by suggesting that field experiments of serum and vaccination treatment on selected infected farms should be instituted in this country without altering the present restrictions on movement.

This report will not please the many pigowners who have been hoping that the advent of the serum here would sweep away the present harassing restrictions upon movement. But it seems clear that more has been claimed for the serum than its present apparent results justify. It cannot be called free from risk, and its efficacy has not yet been conclusively proved. The absence of scheduling and statistics in Holland almost nullifies the value of the experience there; and the American and Hungarian statistics are hardly encouraging. Nevertheless, further research may show that the serum has some value for this country or lead to some improved method; and we should be glad to see the suggested field experiments commenced. Sir Edward Clarke proposed setting aside a whole county for a compulsory field trial of serum *plus* restrictions, and named Wiltshire as a suitable one. This would be better than taking a small area; but it would require special legislation, which might not be easy to obtain. In Holland and Hungary alike the use of the serum is optional; and this helps to obscure the results.

Lastly, we should mention that Messrs. Wragg and Broome have been able to examine the various lesions of swine fever as it exists in Holland and Hungary, and find them identical with those seen in England. In view of the confusion which exists amongst the infectious diseases of pigs, this note by two such experienced observers is more than interesting.

RUPTURED UTERUS IN A SOW.

On February 15th, at 2.30 p.m., I was called to see a pedigree sow farrowing. On arrival I was told that she had passed one dead pig with difficulty at 12.30.

On examination I saw one hind leg protruding from the vulva, and upon inserting two fingers I found the other leg hitched to the roof of the vagina. This leg was quite easily released, and the pig, which was dead, delivered without trouble.

I then left, telling the man to sit with her, but allow her to remain undisturbed, saying I would call at 6.30 p.m.

Arriving at the appointed time, I was told she delivered another pig at 4.30, without apparent trouble, this pig being alive and strong.

I called again next morning, and the man told me she had been quiet all night, and had passed her cleansing, which I examined, noticing at the time that there was a large quantity, considering that only three pigs had been born. She had taken food and walked about, and except for a slight swelling of the vulva, which I ordered to be bathed, she appeared well.

On February 17th, at 8.15 p.m., the man called to say the sow had taken food at 5 p.m., walked to her bench, and died almost immediately.

On February 18th I made a post-mortem examination. On opening the abdomen, a large quantity of blood-tinged fluid escaped, and lying in contact with the intestines were three pigs without foetal membranes. Removing three, I noticed the intestines were very inflamed, but after carrying my incision further towards the sternum, I saw a fourth pig lying in contact with the right lobe of the liver and in a perpendicular position.

The uterus had a large hole on the under surface, and contained a very small portion of foetal membrane.

I consider this a peculiar case; firstly because nearly all the foetal membranes were passed on the night of the 15th, so that the four pigs must have been in the abdominal cavity at the time. Secondly, the sow had fed and walked about without showing distress on the 17th; and thirdly, on account of the position of the fourth pig.

V. PRIDE-JONES.

Bristol.

AGE OF CATTLE AFFECTED WITH TUBERCULOSIS AND SLAUGHTERED UNDER THE ORDER.

Out of 62 reported cases I have slaughtered 49 cattle up to date, the ages being as follows:—

Yearlings	3	Six years' old	14
Two years old	—	Seven " "	4
Three " "	3	Eight " "	6
Four " "	7	Nine " "	4
Five " "	6	Ten " "	2

Apparently the liability to the disease gradually increases towards middle age, and then slowly wanes.

I have made post-mortems of two cows aged 15 years, which I passed out of the order, and found them free.

WM. T. D. BROAD, M.R.C.V.S.

Marlborough.

ABSTRACTS FROM FOREIGN JOURNALS

THE PATHOGENY AND TREATMENT OF LAMINITIS.

Régnier publishes (*Revue Générale de Méd. Vét.*) this question. At the present time the ætiology and pathogeny of laminitis are still greatly disputed. In most cases the cause of the disease seems to be over-exertion, coupled with the excess of nutrition, but cases are also observed which must be reckoned as consequences either of parturition or of the method of feeding alone, or of an infectious disease.

Most authors favour the opinion that the disease consists essentially of a congestion and inflammation of the cutis vera of the foot. Saumur's school regard it as an osteitis of the third phalanx, and a third hypothesis classes it in the group of localised infections or toxi-infections.

The author reports two cases of laminitis in which the horses had not previously gone out of the stable, and had neither done work nor, at any previous time, shown an osteitic disease.

The first case was a colt which had been castrated six days before, and had since been very lightly fed. Great swelling around the castration wound, high fever, and an attack of laminitis upon all four feet, appeared simultaneously. Under the influence of appropriate treatment—bleeding, mustard plasters, and an injection of arecolin—the symptoms subsided, and three weeks afterwards the animal was cured.

The other case was a four-year-old stallion, which had been richly fed, and was suddenly attacked by subacute laminitis with very alarming general symptoms. The temperature was 105.6° F., while the pulse was 92, and the respirations 72 per minute. After an intravenous injection of tallarine and the administration of an electuary of quinine and theobromine, the fever went down. The laminitis itself was treated with injections of arecolin, and the horse was placed upon a milk diet. The laminitis gradually subsided, and the animal recovered completely.

The author ascribes the first case as a toxi-infectious influence proceeding from the castration wound. The other case, he thinks, had had its cause in a too rich nourishment, and had likewise taken a toxi-infectious course. He recommends that such a case should be dealt with, not by local treatment, but by an immediate general treatment with the object of eliminating the toxic materials from the organism. Injections of arecolin, and the administration of theobromine fulfil these requirements.—(*Berliner Tier. Woch.*)

MAMMARY BOTRYOMYCOSIS IN THE MARE.

Willy Plötner, a Berlin veterinarian, has published (*Monatsheft für Prakt. Tierheilkunde*) an article upon this condition, in which he enunciates the following views regarding treatment.

Early extirpation of the mammary gland is the best treatment for botryomycosis of the udder. Iodides are not advisable as agents for curative treatment, as the tumour, which is fibrous and not well supplied with blood vessels, is but little influenced by their internal administration. Iodide of potassium, however, may be used in small and recent botryomycotic tumours, and is also serviceable before and after the operation of extirpating the mammary gland. Before the operation it disperses the phlegmonous swelling surrounding the botryomycotic tumour, and thus facilitates surgical interference. Afterwards it encourages the absorption of post-operative œdemas and swellings.

The operation is very simple. First a cutaneous incision is made in such a manner as to isolate all the diseased portion of the skin. The tumour is then detached, and this is effected by working from the periphery towards the deep parts, and using blunt instruments as far as possible. During this dissection a cord as thick as a child's arm is encountered about the inguinal region. This structure is formed of dense tissue, and fixes the tumour to the inguinal region. It contains the external pudic artery and the efferent veins of the mammary gland, and should be divided with an emasculator or by torsion. (A Belgian critic recommends applying a hæmostatic ligature, as the external pudic artery is very well developed, especially in breeding mares of heavy draught race).

When the diseased mammary gland has been removed, the supra-mammary lymphatic glands corresponding to it are removed also. Finally, if the size of the operative wound permits its closure by suture, this is done. If not, the open wound is treated on ordinary antiseptic principles.

In any case, the extirpation should not be limited to the diseased tissue alone. Half or the whole of the udder should be removed, together with the corresponding lymphatic glands, according to whether one-half or the whole udder is the seat of botryomycotic lesions.—(*Annales de Méd. Vét.*)

THE MISUSE OF WATER IN VETERINARY SURGERY.

Fontaine discusses (*Revue Vét. Militaire*) this question, and, on the ground of his surgical experience and more than fifteen years' practice, he condemns the excessive use of water in surgery and in the treatment of wounds.

Injurious microbes are present in water everywhere, however pure it appears to be. Washing wounds, even with sterile water, disperses and sows the dangerous microbes, and so delays healing.

The author details his procedure in surgical operations. Instruments are sterilised by boiling, and placed dry in a dish which has been sterilised by a flame. The operator and his assistants first clean their nails while dry, and then wash their

hands and nails in hot water which has been boiled, dip them in a 2 per cent. sublimate solution, and allow them to become dry before the operation. If the field of operation is small, it is sterilised with tincture of iodine; if it is extensive, or the skin of the region is fine, a solution of one part of metallic iodine to twenty parts of chloroform is used. Dry aseptic gauze is used for allaying hæmorrhage, and for binding up the wound after operation.

The author also condemns the use of water in the treatment of wounds which are already infected. In the case of superficial wounds, he avoids all washing, and finding painting with tincture of iodine and subsequent dusting with an absorbent powder completely satisfactory. In deep sinuous wounds, his procedure is different. He permits these to be washed out with the object of removing foreign bodies, and then proceeds to apply what he calls a "half-dry dressing." This consists of a pad of wadding, which has been lightly saturated with a 1 per cent. sublimate solution, and is kept closely applied to the wound. It is changed daily or every two days, but no further washing out is practised. Any collected pus is simply wiped away with a pad of wadding soaked in sublimate solution, and the "half-dry dressing" is re-applied. In the later stages the wound is covered with a dry dressing in powder form, and healing is accomplished under a scab.

In the case of a contused wound in the neighbourhood of a joint, the author prefers to first paint with tincture of iodine, and then apply a blistering ointment.

The same principles are followed in the case of deeply penetrating wounds of the foot. The author omits the so-called "antiseptic foot baths," and uses only a "half-dry dressing" composed of a pad of gauze or wadding which has been lightly saturated with sublimate solution and then squeezed out. The wound is not washed out when this dressing is changed, the pus being merely wiped away with the wadding.—(*Berliner Tier. Woch.*) W. R. C.

NORTH OF SCOTLAND
VETERINARY MEDICAL SOCIETY.
[NATIONAL V.M.A. SCOTTISH BRANCH.]

GROUP AT THE COLLEGE OF AGRICULTURE,
ABERDEEN, JANUARY 21ST., 1914.

Front (left to right): Messrs. A. Sievwright, Tarland G. Howie, Alford, (Secretary); W. Marshall, Aberdeen (President); D. Cumming, Culter, (Vice-president); Hugh Begg, F.R.C.V.S., Lanarkshire.

Second Row: Messrs. W. Marsden, Banff; W. Anderson, Keith; J. McBryde, Strichen; Wm. Brown, Aberdeen University; W. Lornie, Hatton; W. Skinner, Oldmeldrum; J. Ironside, Cluny.

Third Row: Messrs. R. Drennan, Aberdeen; D. R. Crabb, Aberdour; H. F. McVean, Craigellachie; D. Clerk, Stonehaven.

Back: Messrs. Jas. Peddie, F.R.C.V.S., Dundee; D. Morrison, New Deer; W. H. Robson, Laurencekirk; A. Bell, Fraserburgh; A. Kerr, Ellon; A. Johnstone, Fyvie W. McPherson, Huntly.

**MIDLAND COUNTIES
VETERINARY MEDICAL ASSOCIATION.
(NATIONAL V.M.A.—NORTHERN BRANCH.)**

The annual meeting was held at the Grand Hotel, Birmingham, on Friday, Feb. 13th. Mr. J. Martin, Wellington, presided, and there were also present:—Messrs. J. Malcolm, E. O'Neill, L. C. Tipper, J. Young, S. M. Woodward, Birmingham; R. C. Trigger, Newcastle-under-Lyme; W. E. Ison, Atherstone; W. Yeomans, Smethwick; D. Forwell, Towcester; T. Chambers, Dudley; F. L. Gooch, Stamford; G. Wartnaby, Burton-on-Trent; F. H. Gibbings, Nottingham; H. S. Reynolds, Daventry; H. L. Pemberton, Bridgnorth; W. S. Carless, Worcester; A. Over, Rugby; P. Evershed, Nottingham; J. Whyte, Tenbury; C. J. Clifford, Shifnal; A. Renfrew, Broadway; T. Slipper, Sutton Coldfield; W. H. Brooke, Handsworth; H. Collett, West Bromwich; R. Murray, Rugeley; W. G. Thomson, Stafford; A. B. Forsyth, Cannock; J. J. Burchnall, Barrow-on-Soar; L. W. Heelis, Solihull; and the Hon. Sec., Mr. H. J. Dawes, of West Bromwich.

The visitors present included: Prof. Brayley Reynolds, Messrs. J. White, H. Connachie, W. H. Bagley, E. Bagley, Birmingham; F. B. O. Taylor, Stratford-on-Avon; F. E. Heath, Moseley; G. H. Locke, Manchester.

Apologies for unavoidable absence were received from the following: Messrs. J. H. Carter, J. Abson, E. Ringer, T. H. Hobson, F. V. Steward, F. W. Barling, John Blakeway; J. Martin, jun., J. Bainbridge, R. Hughes, Tudor Hughes, J. Clarkson, E. Hall, W. H. Brown, J. R. Carless, W. Grasby, J. A. Gold, and others.

The minutes of the previous meeting were read and confirmed.

Nominations. Mr. F. O. TAYLOR, of Stratford-on-Avon, was nominated by Mr. Gooch for membership of the Association.

Mr. R. P. PALMER, of Warwick, by Mr. H. S. Reynolds.

Mr. F. E. HEATH, of Moseley, Birmingham, by the Hon. Sec.

The names of these gentlemen will be submitted for election at the next meeting of the Association.

TREASURER'S STATEMENT.

The HON. TREAS. (Mr. Burchnall) presented the balance sheet. This showed that the subscriptions and entrance fees received during 1913 amounted to £55. There was an item of £3 14s. 6d., representing bank interest, and these two sums, with the balance of £184 6s. 8d. brought forward from the previous year, made up the total assets to £243 1s. 2d. The liabilities included the annual contribution of five guineas to the Victoria Veterinary Benevolent Fund, and a contribution of £15 to the International Veterinary Congress fund (this being the second instalment towards a promised donation of £50). Details of other expenditure were also furnished, and the balance to be carried forward to the new year was £181 7s. 2d. Mr. Burchnall explained the slight reduction in the sum carried forward by stating that the balance sheet contained an item of four guineas, delegates' expenses to the Royal Sanitary Institute Congress in 1912, which was not included in last year's accounts. He believed that this year they had touched high water mark in the matter of income.

The HON. SEC., in proposing that the accounts be passed, said they were the most satisfactory he had ever known in the history of the Association, and were evidence of the keen interest which Mr. Burchnall took in his work.

Mr. GOOCH seconded the motion which was carried.

THE HUNTING FUND.

The HON. SEC. read a circular he had received from the Committee appointed to raise a memorial to the late Mr. Wm. Hunting. He said he was sure they would all want to subscribe individually, but as an Association they would want to identify themselves still further with the movement. He need hardly remind them that Mr. Hunting was one of their oldest members and a past-president. He understood that Mr. Trigger wished to give notice of motion.

Mr. TRIGGER said it was his intention at the next meeting of the Association to move that a sum of not less than ten guineas be subscribed by the Association to the Hunting Memorial Fund. He requested the Hon. Sec. to accept this as a formal notice of motion and to include it in the agenda for the next meeting, according to rule.

REPORT OF THE COUNCIL.

The HON. SEC. presented the report of the meeting of the Council of the Association held immediately prior to this general meeting:—

The Council have recommendations to make with regard to the appointment of officers for the ensuing year, and regret very much that Mr. Trigger, the senior Vice-President, cannot see his way to succeed Mr. Martin, owing to numerous other calls upon his time, both professional and public. The Council have persuaded Mr. Malcolm to accept office, and in view of the visit of the International Veterinary Congress to London this year, and the importance of having an influential and experienced head of our Association at such a time, they confidently expect Mr. Malcolm's unanimous election.

Mr. R. H. Over, of Rugby, is recommended as senior Vice-President, and Mr. H. S. Reynolds, of Daventry, is recommended as junior Vice-President in due course. Mr. Martin, the retiring President, becomes the third Vice-President *ex officio*.

Other recommendations to office are as follows: Hon. Sec.: Mr. H. J. Dawes; Hon. Treas.: Mr. J. J. Burchnall; Auditors: Messrs. W. S. Carless and R. C. Trigger.

Out of consideration for Mr. Malcolm, it is recommended that the next quarterly meeting be held at Birmingham. Mr. F. L. Gooch has invited the Association to hold their August meeting at Stamford, with the promise of a successful ladies' day, and this will be considered by the Council at their next meeting.

Mr. Malcolm has undertaken to communicate with Prof. Mettam with a view to his reading a paper at the next meeting.

It is recommended that to succeed Messrs. Wartnaby and R. Over who retire from the Council this year, Messrs. W. H. Brooke and T. Slipper be elected.

On the motion of Mr. Tipper, seconded by Mr. Gibbings, the report of the Council was received.

Resignations. The resignations from the Association of Mr. W. G. Burndred, Hanley, and Mr. Norman Thompson, formerly of Derby and now of London, were accepted with regret.

ELECTION OF OFFICERS.

The HON. SEC., in moving that Mr. John Malcolm be elected President of the Association during the coming year, said that in view of the important happenings in the veterinary world this summer they wanted someone to preside over them who would command both the confidence and esteem of all the members. He thought they would agree with him that Mr. Malcolm was that man above all others. He was held in high repute both inside and outside the profession, and the amount of work he had done for the Association, both as an ex-secretary and an ex-president, entitled him to their last-

ing gratitude. If, as was the case this year, the Association had it in its power to confer any special honour on one of its members, Mr. Malcolm was the one most deserving of it.

Mr. TRIGGER said he had never seconded a resolution with greater pleasure than this. Mr. Malcolm would make them an ideal president at a time like this, for he was a man of high attainments and would most worthily represent the Association at the International Veterinary Congress.

The resolution was carried by acclamation, and Mr. Malcolm, in accepting the office, said he regarded the honour as another manifestation of the goodwill which the Association had always borne him. He took the position with considerable reluctance, but he was satisfied that he would have at his command the sympathy and support of every member during a busy year.

Vice-Presidents. Mr. R. H. OVER and Mr. H. S. REYNOLDS. Mr. MARTIN would be a Vice-president next year *ex-officio*. Mr. Gooch proposed and Mr. Carless seconded, and carried.

Hon. Treasurer. Mr. J. J. BURCHNALL was unanimously re-elected on the motion of the Hon. Sec., seconded by Mr. Tipper.

Auditors. Messrs. CARLESS and TRIGGER.

Hon. Secretary. Mr. MALCOLM said he would like to have the opportunity of proposing the re-election of Mr. Dawes. Mr. Dawes, he said, was hon. sec. during his first presidency of the Association twenty years ago, and he would be very sorry not to have the benefit of his services again. This was seconded by Mr. A. Over and unanimously carried.

The Council were re-appointed with the substitution of Messrs. Brooke and Slipper for Messrs. Wartnaby and R. H. Over.

VOTES OF THANKS.

Mr. GOOCH proposed a vote of thanks to the retiring officers for their services during the past year, and said it was a matter for congratulation that during the past twelve months the Association had enjoyed a greater measure of prosperity than ever before. This was seconded by Mr. Chambers, and heartily agreed to.

The PRESIDENT briefly acknowledged the compliment, remarking that although the membership of the Association continued to grow, there were still many eligible men outside their ranks who ought to join.

DEMONSTRATION BY PROF. BRAYLEY REYNOLDS.

Prof. E. Brayley Reynolds (London) gave two demonstrations of canine surgery, which were followed with much interest, the only regret being that there was no time afterwards for discussion. The first operation was upon a toy Pomeranian bitch which was suffering from double inguinal hernia. The second was ovario-hysterectomy on a fox terrier.

TUBERCULOSIS IN BOWEL OF A CAT.

Prof. REYNOLDS brought with him to the meeting part of the abdominal viscera of a cat. It consisted of part of the ileum, the cæcum, and part of the colon, along with the adjacent mesenteric lymphatic glands. These were greatly enlarged, and on microscopical examination had been found to be very rich in tubercle bacilli. Prof. Reynolds remarked that he thought it was a condition that was more common than was generally supposed, this case being about the tenth that he had seen during the past two months. The condition, when in the advanced stage as this case was, was easily ascertained by palpation through the abdominal wall.

THE ANNUAL DINNER.

The annual dinner of the Association was held in the evening, Mr. Martin again presiding. The toast of "The King" was first honoured.

Mr. F. L. GOOCH then gave "The Royal College of Veterinary Surgeons." He referred to the honour which the profession would enjoy this year of receiving a visit from the International Veterinary Congress, and said they looked to the Royal College to do what was necessary in the matter. Of course, those in authority could do nothing without the support of the general body of practitioners, and he hoped they would see to it that nothing was wanting on their part to enable the Royal College to entertain the delegates in a fitting manner. It was a feather in the cap of the profession to have the Congress in this country, and as they had no Government subsidy to fall back upon, as was the case in other countries, the duty of giving their veterinary colleagues from abroad a proper welcome fell upon veterinary surgeons themselves. He felt sure everything possible will be done to uphold the credit and dignity of the profession in that respect. He regretted that the general finances of the College were not all they should be, but when the new Bill was passed into law anxieties of that kind would be ended.

Mr. T. CHAMBERS was called upon to acknowledge the toast, and he claimed to be voicing the opinion of all who had the veterinary profession at heart when he said they all hoped the Bill would soon become law.

Prof. REYNOLDS proposed "The Midland Counties Veterinary Medical Association." This, he said, was his first visit to the Midland Association, although he was a Midland man himself, and he was pleased to find from his own observation that it was the flourishing and successful Association it was always represented to be. He thought it was the duty of every veterinary surgeon to join a local association as soon as he left College, or at any rate as soon as he settled down in practice. If they had done so more generally in the past there would have been less need for the appointment of outside inspectors, because the work could have been done through the local associations. The main object of these associations was to promote professional knowledge, and those men who were better endowed than others owed it as a duty to their less favoured colleagues to impart that knowledge whenever they had the chance. It was equally a duty owing to the client for every veterinary surgeon to attend the meetings of his association, for there was scarcely a meeting at which there was not something to be learnt. That, at least, was his own experience. He congratulated the Midland Association upon being so well officered, and referred specially to the work of the Hon. Sec. They were happy, too, in their choice of Presidents, and to the list of distinguished men who had already filled that office he was pleased to see the name of Mr. Martin added.

The PRESIDENT, replying, agreed with the proposer of the toast as to the need for every veterinary surgeon to identify himself with his fellow practitioners in the way which membership of a local association afforded. He had found during the last twelve months that the office of president was not exactly a sinecure, but thanks to the energy and zeal of their Hon. Sec. the work was performed smoothly and pleasantly. Incidentally, he thanked Professor Reynolds for his attendance that day and for the demonstrations in canine surgery which he had given. He was sorry time would not permit of the meeting being resumed when the operations were concluded, but he was sure they had all enjoyed seeing Prof. Reynolds at work more than listening to speeches. For his own part he had certainly learnt more.

The HON. SEC. proposed the health of "The Visitors," and said if there was one thing more than another upon which the Midland Association prided itself it was in the warmth of its welcome to non-members.

Mr. LOCKE responded, and after acknowledging the great hospitality that had been shown to him, extended

an invitation to any member of the Midland Association to visit the Lancashire Association whenever it was in their power to do so.

The HON. SEC. said there was one other toast which ought to be honoured, and that was the health of Prof. Reynolds, who had proved himself a most skilful operator, and delighted them all that day with his work. He, personally, was very grateful to him for coming amongst them, and he would like to endorse what Prof. Reynolds had said about the desirability of every veterinary surgeon making a point of belonging to some association. It was only by united action that they could safeguard the interests of the profession, and the stronger an association was the better it must be for its members.

Prof. REYNOLDS briefly replied, and the gathering afterwards dispersed.

H. J. DAWES, F.R.C.V.S., Hon. Sec.

LINCOLNSHIRE AND DISTRICT VETERINARY MEDICAL ASSOCIATION.

[NATIONAL V.M.A.—SOUTHERN BRANCH].

The annual meeting was held at the George Hotel, Grantham, on Feb. 18. Mr. C. W. Townsend, F.R.C.V.S., presided, and also present were Mr. T. Holmes, Burne (Vice-President), Messrs. H. A. Allott, Upwell; D. Cooper, Saxilby; F. L. Gooch, Stamford; C. Hartley, Junr., Lincoln; T. Hicks, Sleaford, Hon. Sec.; A. Johns, Kimbolton; A. D. Lalor, Sleaford; W. W. Lang, Ulceby; G. Lockwood, Peterborough; W. Marshall, Horncastle; T. A. Rudkin, Grantham; H. C. Taylor, Caistor; Mr. Gresham, Newark, being a visitor.

Messages apologising for absence were received from Messrs. C. Hartley, Senr., E. Wardrop, W. W. Grasby, H. H. Truman, T. B. Bindloss, L. L. Leach, H. Leach, G. B. Dickinson, and A. R. Routledge.

The Minutes were duly signed.

DEATH OF MR. W. HUNTING.

The PRESIDENT said that since their last meeting they had lost one of the most respected and honoured members of the profession; he referred to Mr. Hunting. As an honorary member of the District he was an esteemed friend, as he was throughout the profession generally. He knew it would be the wish of the members to express their deep sympathy with the relatives, and he moved that a resolution of condolence should be sent. He added that Mr. Hunting had always been ready to assist them by reading a paper or otherwise, and only last July he said he would come down whenever they asked him. It was a matter of great regret that they would not have him with them again.

Mr. F. L. GOOCH, in seconding, said that if Mr. Hunting excelled in any quality it was in his desire to help on young practitioners. His name would be handed down to future generations if only for the work he did in the suppression of glanders. He loved his profession, and the members of it, and he was never so happy as when spending money on it. They could not do better than subscribe to the memorial that was being raised for him.

The resolution was carried in silence, all standing.

COUNTY COUNCIL FEES.

The HON. SEC. said he had written to the Clerk of the Holland County Council with regard to their fees under the Tuberculosis Order, and the County Council had agreed to their suggestions, except that they only allowed 6d. per mile travelling expenses one way.

Mr. LALOR: In the Kesteven Division they give 1/- per mile both ways.

A Member: And in the Lindsey Division.

Mr. LALOR: I had a letter from Mr. Gane, of Boston (Clerk to the County Council) saying they were going to adjust it.

The HON. SEC. said the Hon. F. McLaren, the member for the Spalding Division, had been written to, and had promised his services in the matter.

In the course of discussion, the President expressed the opinion that as medical practitioners they were entitled to rebate under the petrol tax.

Mr. GOOCH also pointed out that they could claim exemption, as in the medical profession, from juries, and several members said they had successfully done so.

THE NATIONAL.

The HON. SEC. reported that he had paid £1 11s. to the National Veterinary Association, 1s. for every paid-up member.

FINANCIAL STATEMENT.

Mr. HICKS presented the balance sheet, which showed the income to have been £29 12s., the balance at the bank at the end of the financial year £38 2s. 3d.

The PRESIDENT: I think we can congratulate Mr. Hicks that the balance at the Bank has increased from last year.

The financial statement was adopted.

The HON. SEC. reported a number of outstanding subscriptions. Some members who had not paid never came to the meetings.

Mr. GOOCH pointed out that Rule 7 decreed that members who had not paid their subscriptions for four years should be struck off the roll. He moved that registered letters be sent to members in arrear calling their attention to this rule, and stating that it would be put into effect if they had not paid at the next meeting.

Mr. HOLMES seconded, and this was agreed to.

ELECTION OF OFFICERS.

Mr. TOWNSEND (the retiring President) remarked that the International Congress would be held in the ensuing year, and it was necessary that as President they should have someone to represent them to the credit of the Society. He should like to propose as President the name of Mr. Gooch, who had served the Society well, and was secretary for seven years.

Mr. GOOCH asked to be excused, as he should be at the Congress, and had already filled the presidential chair.

Mr. T. HICKS said he should like to propose the re-election of Mr. Townsend, for he had already taken part in the preliminary arrangements for the Conference.

Mr. C. HARTLEY, jun., heartily seconded, and it was carried unanimously.

Mr. TOWNSEND said he considered it a very great honour. It had always given him much pleasure to do anything for the Society. It had been a very pleasant year, and he thought they could say a fairly successful one, there having been good attendances at the meetings. He thanked them all for the support they had given him, and especially the Secretary, who had quite fulfilled his anticipation when proposing him last year.

Vice-Presidents. Messrs. W. W. GRASBY, T. HOLMES and H. H. TRUMAN were re-appointed, on the motion of Mr. Gooch, seconded by Mr. Lalor.

Hon. Sec. The President proposed the re-election of Mr. HICKS. He had great pleasure in asking Mr. Hicks to act again. Mr. Gooch seconded, and it was agreed.

Mr. HICKS, in returning thanks, said he could not undertake the duties but for his wife, and she said she was willing to take her part in the work. (Applause).

THE INTERNATIONAL CONGRESS FUND.

Mr. GOOCH said they had 41 members, and only 21 had promised subscriptions. The amount promised was

was 76 guineas, and the amount paid 51 guineas, but he expected to get the 25 guineas outstanding. He thought that was fairly good for a small Society, especially as it was stated at the last Council meeting that out of 4000 members only 700 had subscribed. The sum of £3,800 had been promised in all, but only £2,700 had been paid into the bank. The minimum cost of the Conference was placed at £4,000, but Mr. Garnett had told him that would not be sufficient. He should be pleased if members who had not subscribed would write to him or Mr. Garnett to say what they were willing to give. As they had a balance of £38 at the bank, he proposed that, as a society, they should give a donation of 5 guineas to the Fund.

Mr. Lockwood seconded, remarking that it was essential that they should make the International Congress in England a success, and it would be a slight on the profession if they did not entertain the foreign delegates in the same way as they had entertained them.

The PRESIDENT supported the suggestion, and it was agreed to.

Mr. GOOCH said that would make 81 guineas, and he hoped to make it up to 100 guineas. The following is the list paid or promised to date:—Messrs. T. B. Bindloss, 3 guineas; F. L. Gooch, 9 guineas; W. W. Grasby, 3 guineas; C. Hartley & Son, 10 guineas; T. Holmes, 3 guineas; T. Hicks, 2 guineas; A. Johns, 3 guineas; R. W. Knowles, 3 guineas; A. D. Lalor, 3 guineas; A. Lennox, 3 guineas; G. Lockwood, 3 guineas; J. Mackinder, 3 guineas; H. H. Nichols, 3 guineas; R. A. Routledge, 3 guineas; T. A. Rudkin, 3 guineas; F. H. Sugden, 3 guineas; H. C. Taylor, 1 guinea; C. W. Townsend, 3 guineas; H. H. Truman, 5 guineas; H. Westgate, 4 guineas; G. T. Willows, 3 guineas; the Lincolnshire V.M.A., 5 guineas.

SPECIMENS.

Mr. ROUTLEDGE and Mr. RUDKIN exhibited curious morbid specimens, and Mr. GEO. LOCKWOOD, of Peterborough, a cleverly devised cat box for security in operations.

SOME SURGICAL OPERATIONS ON THE DOG.

By Prof. E. BRAYLEY REYNOLDS, R.V.C., London.

Mr. President and Gentlemen,—I had expected that all or the greater part of the time at our disposal would have been occupied in demonstrating various operations before you. Unfortunately, however, operations upon the dog that are likely to provide suitable and interesting demonstrations are rather limited in number, and due to a somewhat usual perversity of fate, we have not been able to obtain the necessary subjects. I propose, therefore, to endeavour to fill up the spare time in making a few general remarks and in giving a more or less detailed description of one operation that I had hoped to perform before you to-day.

It is perhaps needless for me to remind you of the much more important place the treatment, both surgical and medical, of dogs takes in the ordinary routine of present day town and also country practices, than it did only a few years back. It would be mere plagiarism on my part to repeat the only too often made remark that as the introduction of motor traction has caused a falling off in equine practice, it is incumbent on veterinary surgeons to turn to canine work in order to keep the ledger returns up to the normal. Important as this financial side of the question is—and only those who have taken up this class of work know how successful it is in supplying the deficiency—I think there is another aspect which is equally important, and this is that owners now expect very much more from veterinary surgeons in connection with the treatment of dogs. Financial returns may be affected from this point of

view also. For some people may argue, rightly or wrongly, that if one cannot treat dogs successfully one cannot treat horses successfully. It is quite possible that the stable may be entered—or left, through the kennel, or perhaps even through the lady's boudoir. Further, it is this sort of work that creates more and more interest the more one does of it. In the majority of cases the value that is attached to the patient is a sentimental one, and not a commercial one, as is the case in most of the other animals. The work is usually of a more congenial character; it is cleaner and lighter, advice and orders are more faithfully carried out, and one is not bothered with such remarks as, Is it worth it? When can I get him to work? Do you think it necessary to see him again? etc. The surgical side of the work, and that is the one that more closely concerns us to-day, is perhaps the more interesting. From the general environment of the animal, and the size of its body, one can nearly approach human surgery. Certain it is that some operations can be successfully performed and others attempted with fair chances of success, which on the larger animals would be quite impossible.

I have several times heard the remark that operations are all very well for those who have a proper operating table, instruments, and plenty of help, but that the majority of practitioners are not so fortunate, and so cannot attempt them with the same hope of success. While admitting that is the case in a few of the more serious operations, when surroundings and particular instruments are more or less necessary, I do not think that they are in any way essential for the great majority of operations. A table on which one can fix the animal is a necessity. An ordinary deal kitchen table answers quite well, and is not expensive. The top should receive several coats of enamel to prevent absorption of fluids, etc., thus enabling it to be kept clean. A set of hobbles and sliding cords which can be fixed to clamps on the edge of the table or to hooks screwed into the sides or legs will make it complete. The benefit derived from the possession of such a table, even for performing very minor operations on the dog and cat, when an anæsthetic is not necessary, far outweighs the small initial outlay. No matter how much help one has, an animal cannot be held by hand with the same comfort to the operator as when fixed on a table. As I mentioned before, it is only for very special operations that special instruments are required. Very much can be done with the instruments that are in the possession of every veterinary surgeon.

What does appear to be a serious handicap to many veterinary surgeons is obtaining help, either for the administration of the anæsthetic, or perhaps actually to give a hand in performing the operation itself. We are not so fortunate as our medical brethren in this respect, one reason being that we are usually not quite such close neighbours, another that we are not so much inclined to ask one another's assistance, and I might suggest perhaps that in many cases the doctors do it only by compulsion of the law. Those veterinarians who have partners or assistants are not thus handicapped. To those who have not, I would suggest that they should train some member of their establishment in the administration of anæsthetics. I do not propose to go into details on the question of antiseptic or aseptic surgery and the question of anæsthetics. Details of them are already known to you, so it is unnecessary to occupy time in discussing them now.

As regards the adoption of antiseptic or aseptic methods in surgery, in some cases it is, of course, essential to adopt the former method. But in performing operations which involve surgical interference on healthy tissue only (the word "healthy" used in connection with the condition of the cellular elements of the tissues), I think the aseptic method is preferable, and gives better results. Antiseptics of sufficient

strength to have a harmful effect upon organisms must have such an effect upon healthy tissue cells that healing will be rather retarded than hastened. Again, one may be inclined to rely too much upon the services of the antiseptic, whereas in the adoption of aseptic methods one realises that success can be obtained only by scrupulous attention to detail. It is perhaps thought by some that these details are so many and exacting that they cannot be obtained amidst ordinary surroundings. I would remark in connection with this that it is not the multiplicity of the precautions one *might* take, but the thoroughness of the precautions one *must* take that is essential to success by this method. One must get fixed in one's mind that everything used in connection with the operation must be sterilised, and when once sterilised must not be allowed to come in contact with anything unsterilised. After a short time of strictly adhering to these precautions one finds it easy to observe them. I think I cannot do better than quote the following passage from a paper read by Prof. Woodruff before the National Veterinary Association meeting held in Manchester in 1912.

Dealing with this subject, he says:—"There is little need to say how essential this requirement is. All the triumphs of modern surgery are due to the antiseptic method devised by Lister, and modified and developed by succeeding surgeons. At the present time in human surgery the antiseptic era has almost given way to the aseptic, with very great advantage. In veterinary surgery the aseptic method is less convenient and demands a more rigid routine than the antiseptic. Nowhere is the saying "Cleanliness is next to Godliness" so well illustrated as in the operating theatre. The ritual to be observed in securing asepsis is as exacting as the ritual in the high cathedral. There is need to emphasise this, for it may safely be said that no operator not constantly using and practising the aseptic ritual can hope to attain it. How often has one seen the most painstaking and elaborate preparations for an aseptic operation completely nullified by a certain disposal of an instrument—knife, forceps, or needle and silk—on a dirty table or on the unprepared skin, or some other equally septic place, when some emergency like the section of an artery arose in the course of the operation. In asepsis, as in every other ritual, only the trained priests can minister at the altar."

The introduction of the use of Tr. iodine has somewhat simplified the preparation of the operation area.

In connection with anaesthetics, I would simply remind you of the use of morphia as an anaesthetic in the dog. Many operations can be performed while the animal is under the effect of this drug alone, a point that is important to those who are single-handed. One may employ a local anaesthetic in conjunction with it, or if necessary, chloroform, and in this latter case only a small quantity of the drug is necessary. The excitement stage, often so noticeable when this drug is used alone, is absent. Another benefit to be derived from the use of morphia is that owing to its prolonged action the animal remains under its influence for some hours. The quietude so obtained may have a markedly beneficial effect on an operation wound.

INGUINAL HERNIA IN THE BITCH.

I propose to give you now some observations on the operation for inguinal hernia in the bitch; text books are somewhat meagre in their details on this subject.

Occurrence. The condition is met with in bitches of all ages, irrespective of whether the bitch is a maiden or not. It is sometimes noticed to occur a few days after mating. On the other hand, bitches suffering from bad inguinal hernia may become pregnant, and provided a gravid horn of uterus is not present in the hernia, may give birth to puppies quite normally.

Causes. Accidents causing sudden pressure or tension on the abdominal wall may be a cause. I might note that in hernia from this cause the hernial sac is often absent, actual rupture of the peritoneum having taken place, allowing the escape of some of the abdominal organs down the inguinal canal. Excessive coughing set up by, say, chronic bronchitis, may also bring about the condition. It is probable that an anatomical arrangement in this region in the bitch may be a predisposing factor. The round ligament of the uterus, which is the homologue of the gubernaculum testis of the male, arises from the extreme end of the uterine horn in the region of the fallopian tube, passes down through the inguinal canal and becomes lost towards the perineal region. A larger or smaller amount of adipose tissue accompanies it in its passage through the inguinal canal and tends to keep this more or less patent.

Diagnosis. The hernia appears as a flaccid enlargement in the inguinal region varying in size from a walnut to a coconut. It may be recent in occurrence or may have been in existence for many months or even years without having caused any harmful effects. Generally there is but one side affected and that the left one. Probably there is some analogy between this peculiarity and the fact that the left testicle in the majority of males of most species is lower than the right one. Occasionally a hernia is present on both sides.

It is necessary to distinguish hernia from other abnormal enlargements in this region. Such enlargement may be a localised chronic mastitis, an inflamed lymphatic gland, or a neoplasm in connection with some of the tissues in this region. It is also necessary to distinguish it from the so-called false inguinal hernia, a term used to describe a condition caused by an increase in the amount of fat normally present in connection with the round ligament of the uterus as it emerges from the inguinal canal. Careful palpation of the parts while the animal is laid on its back will enable one to make a definite diagnosis. Points that may assist in this connection are (1) the consistence of a hernia is as a rule more elastic and flaccid than that of other enlargements in this region. If the hernia is a strangulated one the swelling may be more tense and there will be pain on pressure, and other symptoms will be present. (2) It is possible on palpation to trace the hernia contents into the inguinal canal. Further, one may be able to make out the nature of the contents, which consist most commonly of one or more horns of the uterus, sometimes intestine, bladder or some other abdominal organ. (3) The smaller hernias are usually reducible, and many of the larger also if one exerts patience and perseverance. This fact will help to differentiate true from false hernia. A false hernia is not reducible, whereas a true hernia of the size of the largest false one is reducible.

Operation. Except in the case of a strangulated hernia, where immediate operation is necessary, the patient should have been prepared by receiving a dose of castor oil and the part shaved and washed the day before operating. A general anaesthetic is necessary; morphia followed by chloroform will answer admirably. The seat of operation is painted with Tr. iodine, and, of course, all instruments, swabs and trays sterilised, and the operator's hands thoroughly cleansed and disinfected. The animal is fixed in a dorsal position on the operating table.

If at all possible reduction should be first attempted. If this is successful a very much smaller external incision will suffice. An incision about 1½ inches long is made directly superior to the external inguinal ring, parallel to the line of junction of the thigh with the body. The skin, the dartoid tissue, and any fascia present should be incised down to the herniated peritoneal sac, care being taken not to puncture the latter.

It will be found that the making of the incision will be facilitated if complete reduction has not been carried out, or if part of the hernial contents be allowed to return into the sac after reduction has been found to be possible. The hernial sac thus laid bare can then be withdrawn through the incision, practically no dissection, blunt or otherwise, being necessary. There is consequently no bruising of the tissues, and, since no vessels pass from the sac to the surrounding tissues, there is no hæmorrhage. These two facts have considerable bearing on the subsequent healing of the wound.

If the hernia is not reducible a somewhat larger incision is made in a similar manner. The incision need be only very little longer, since the hernia contents not being in the form of a solid mass will pass through a comparatively small opening. It is beneficial to keep this external incision as small as possible. The sac and its contents having been withdrawn reduction is again attempted and, provided there is present neither any adhesion of the contents nor a gravid horn of the uterus, reduction is almost sure to be possible, without having to resort to the enlarging of the inguinal ring. The end of the sac is grasped with a pair of forceps—ordinary artery forceps answer well—then while the contents of the sac are subjected to digital manipulation towards the region of the inguinal canal, the forceps are gently turned, twisting up the sac and exerting a gentle enveloping pressure. After complete reduction the sac is ligatured close up to the inguinal ring, care being taken not to include a large vein which passes up the median side of the inguinal canal. The sac is then taken off below the ligature. I might here remark that when hernia is present the inguinal canal is practically non-existent; the internal and external inguinal rings being almost directly superimposed to one another. For this reason, and especially when the rings have become much dilated due to the hernia, it is advisable to insert two or three sutures as a support. The sutures should pass from Poupart's ligament on the outer side to the combined aponeuroses of the external oblique, the internal oblique, and the transverse abdominal muscles on the inner side of the ring. Care must be taken not to injure any vessels which are adjacent to these parts or serious hæmorrhage may result, with which it is difficult to deal.

In cases where there are adhesions it may be necessary to open the sac before reduction can be effected. This is also necessary if a pregnant horn be present; the whole horn containing the fetus can then be removed, or, if the uterus and fetus are healthy, and it is desired to retain the bitch for breeding purposes, the horn may be opened and the fetus removed. The wound in the uterine wall, if the latter method has been adopted, is carefully sutured with Lembert's sutures and the organ returned into the abdominal cavity. The sac and inguinal ring are then dealt with in a manner similar to that described above. The cavity previously filled by the hernia is then mopped out and any blood clot removed. The edges of the skin wound are brought together by closely placed interrupted fine silk, or silkworm gut sutures.

There is one point in connection with this of which strict observance is necessary, as I consider it has a great influence upon the early healing of the wound. Owing to the position in which the dog is usually fixed, the skin is dragged up from the abdominal wall, from which it has been separated over a large area by the hernia, and air is easily included in this space when suturing the external wound. Any air so included will, before its dispersion, keep the opposing surfaces apart, prevent early adhesion and encourage oozing into the space from small severed bloodvessels or lymphatics. Subsequent swelling is much greater. Care should be taken to exclude any air. To do this the last two sutures should be inserted, but not tied, the hind leg on

the affected side should then be released, flexed, and the thigh pressed lightly to the abdominal wall. The air can then be easily expelled by slight manipulation of the surrounding parts, and the remaining sutures tied. The wound should be painted with Tr. iodine, and a pad of gauze and cotton wool applied and held in position by means of a many-tailed bandage.

Mr. GOOCH proposed a hearty vote of thanks to Prof. Reynolds for his paper and the operation he had performed, and said they were greatly indebted to the gentlemen from the College who came down from time to time.

The PRESIDENT, in seconding, said it was very good of Prof. Reynolds to come down, and the subject he had chosen was one that he was sure they would all turn their attention to.

The motion was carried unanimously.

New Member. Mr. GRESHAM, of Newark, was nominated as a member of the Association, by Mr. Rudkin, seconded by Mr. Lalor.

The business proceedings concluded, an adjournment was made for high tea.

T. HICKS, Hon. Sec.

REPORT OF THE DIRECTOR OF ABATTOIR AND LIVE STOCK MARKET, JOHANNESBURG, FOR THE PERIOD 1ST JULY, 1912, TO 30TH JUNE, 1913. [ABSTRACT].

Shortly after the opening of the stockyards and abattoir at Johannesburg in 1910 we printed a description of them, with several illustrations, [Nov. 5th, 1910] to-day we are able to record the progress and the undeniable success of the scheme initiated and carried through under the direction of a veterinary surgeon—Lt. Col. James Irvine Smith, M.R.C.V.S., (Commanding Transvaal Veterinary Corps). His persistence has overcome all opposition (including that of Medical Officers of Health) and has created an establishment which has, perhaps, no superior in Europe.

Twelve years ago the Johannesburg abattoir consisted of a few gallows in the *open veldt*, and under no control or inspection. The meat was killed under the most revolting sanitary conditions. Colonel Smith knew his mind, and how to arrive at what was necessary in spite of obstruction. Very much of the success depended upon finding water—and he found it. The report shows that one of the boreholes shows signs of failing, and the estimated cost of the work to replace it.

He was the first to show that unskilled white labour could be profitably employed, and in this matter has worked a revolution which can only be appreciated by those familiar with South African conditions.

The ramifications of his work are numerous, quite a new order of affairs is springing up in consequence of his attacks on the railway authorities for their carelessness in transporting animals. He has killed the expensive frozen meat trade, carried on by the Coast with Johannesburg, by producing all that was required in the form of fresh meat, and he now projects the exportation of meat.

Col. Smith graduated from the Glasgow College in 1898. It is gratifying that his remarkable personality has found acceptance in a new country instead of being left to lie unrecognised and neglected in this.

Operations during the period under review reveal a sound financial position, a further increase in trade, producers and consumers brought into closer touch with each other, and the adoption of further safeguards with a view to securing a high standard of purity in the meat supplies.

The turnover in the live stock market was approxi-

mately £3,660,728, an increase of £517,611 on the previous year.

The number of animals passing through the live stock market was 1,051,951, an increase of 75,817.

The number of animals slaughtered in the abattoir was 476,046, an increase of 22,310.

The total amount of meat seized and condemned was 430 tons, an increase of 146½ tons.

FINANCIAL POSITION.

The gross earning was £38,218, an increase of £3,079; the working expenditure was £22,277, an increase on the previous year of £572. The result was a gross surplus of £15,941, as against £13,850 in 1911-12. The live stock market exhibits a striking increase, the receipts amounting to £11,230, and exceeding 1911-12 by no less than £975. After making provision for interest on loan capital, depreciation and redemption, there remains a nett profit of £10,122.

The abattoir, with a capital of £72,624, yields a nett profit of £6,441; and the live stock market, with a capital outlay of £22,292, yields a nett profit of £3,682. It is hardly necessary to emphasise the point that the abattoir being a compulsory institution where all animals must be slaughtered, cannot be regarded as a trading concern for the purpose of exacting large profits, otherwise it would assume the unpopular role of a taxing machine, levying indirect taxation on meat. The charges are therefore regulated to yield a revenue which will cover working costs, interest, depreciation, and redemption on loan funds, and a reasonable interest on capital invested. Certain safeguards, however, require to be maintained, as there are items of expenditure which must be regarded as uncertain factors, the most important being the water question. In the event of our local supplies giving out entirely (No. 1 borehole already shows a falling off) it is estimated that our annual expenditure would be increased in this item alone by £9,000, and £6,000 of which would require to be found by the abattoir, and £3,000 by the live stock market.

The abattoir charges equal 05d. per lb. of beef, 14d. per lb. of mutton, and 08d. per lb. of pork.

During the year the Council agreed to substantial remissions, which took the form of extended hours for storage in the hanging hall, thereby relieving wholesale butchers of the necessity for renting rails.

On the instruction of the Council the price of fertilizers produced at the by-product plant was regulated so as to cover working expenses and capital charges. The Council was guided in its decision on this point by the fact that the fertilizers are manufactured from seized, condemned, and waste material.

By sale of By-Products	£2,074 3 11	
„ Stock on hand, June, 1913	697 6 10	£2,771 10 9
The cost of production of by-products was:		
To Tallow, 154,252 lbs. (per lb. = 2'0193d.)	£1,297 15 9	
„ Meat and bone meal, 286,637 lbs.		
(per 2,000 lb. ton = £7 9 7)	1,072 0 3	
„ Blood Meal, 73,303 lb.		
(per 2,000 lb. ton = £6 15 10)	248 19 4	
Profit	152 15 5	
		£2,771 10 9

These products were sold at the following rate:—
Meat and bone meal: £7 10s. per ton of 2,000 lbs.; Tallow (light) 2½d. per lb.; (dark) 2½d. lb.

A total of 957 tons of condemned and waste material was converted into 134,252 lbs. tallow, and 286,637 lbs. fertilizer; 67,225 gallons of blood was converted into 73,303 lbs. of blood fertilizer.

From above it will be seen that the live stock market is the only real trading branch in this Department, and as such yields a generous profit.

CAPITAL EXPENDITURE ABATTOIR AND LIVE STOCK MARKET.

Financial year.	Capital expenditure.	Percentage on Capital shown by nett Profit.
1908-9	£14,597 19 1	—
1909-10	17,430 1 6	6·5 per cent.
1910-11	32,695 17 8	
1911-12	69,646 2 5	8·66 „
1912-13	88,143 3 10	9·50 „
	94,916 2 10	10·664 „

Included in the ordinary expenditure are the rates of interest, depreciation, and redemption as laid down by the Council, and a ground rental of 6 per cent. on £30,000.

By profits for 1912-13 £10,122 2 10

To Capital and special expenditure,	
Abattoir and Live Stock Market	5,200 15 2
„ Contribution towards relief of rates	4,921 7 8

Taking the total population of Johannesburg, as per last Government census, at 237,220, the following statistics show a daily meat consumption of 744 lbs., or approximately ½ lbs. per head per day. This figure does not represent the actual consumption per head of Johannesburg population. A large quantity of meat slaughtered here is consumed outside the municipal area.

The following table shows the number of carcasses found to be infected with tuberculosis:—

	Slaughtered.	Tuberculous.	Per cent.
Cattle	72,122	94	·130
Pigs.	31,318	313	·967
Sheep	369,229	Nil	—

The above figures reveal that tuberculosis is gradually on the increase.

As formerly Cysticercus infestation was the principal disease rendering carcasses unfit for food. Of 72,122 cattle slaughtered, 601 cases were found to be infested; a percentage of 83.

During the year 31,318 pigs were slaughtered, and of these 3,596 had Cysticercus cellulosa infestation, a percentage of 11·482.

A considerable amount of microscopical work has been done. It has been found that this important work is greatly hampered owing to inadequate and unsuitable accommodation. A laboratory has been included in the draft plan for the new offices which will be submitted for the Council's consideration at an early date.

The question of the installation of cold storage at the abattoir still remains in abeyance. The establishment of cold storage works enables the farmer to develop the meat and mutton industry, and the development of the cattle and meat trade in Johannesburg will be retarded so long as facilities of cooling rooms are denied.

The condition of the refrigeration trucks on the railway still remain unsatisfactory, and it is impossible to conduct the dead meat trade with satisfaction if those who control the chief transit routes remain unmoved as to the absolute necessity for improvement of refrigerating trucks, and the maintenance of a controlled temperature during transit.

Every year shows an increase in the number of live stock slaughtered, and a corresponding dwindling in the quantities of frozen and chilled meat imported.

Ordinary trollies are used to convey meat through the streets. The time has arrived for a specially constructed covered-in cart for the conveyance of meat only to the different parts of the town. Draft bye-laws dealing with this question will be submitted for the Council's consideration.



MEMBERS OF THE NORTH OF SCOTLAND VETERINARY MEDICAL SOCIETY,
Aberdeen, 31 January, 1914.

On the 20th of March, 1913, the Public Health Committee resolved as follows:—

"When any Municipality having the power to enforce meat inspection charges, agrees to admit into its municipal area free of charge butchers' meat bearing the Johannesburg meat stamp, the Johannesburg Municipality will reciprocate by admitting free of charge all butchers' meat into the Johannesburg Municipal area, bearing the stamp of the Municipality concerned, both Municipalities retaining the right to stamp and subject such meat to any further inspection they may think fit."

LIVE STOCK MARKET.

The number of cattle and sheep which entered the live stock market during the past year shows a large increase as compared with 1911-12, and this increase was almost entirely due to the opening up of closed or quarantined areas. During the year the prolonged droughts seriously affected the condition of animals arriving. Although taking the condition throughout the year the numbers of prime cattle and sheep were greater than in previous years.

During the past year the number of cattle arriving has increased by 16,769; sheep have increased by 54,622, and pigs show an increase of 7,924 as compared with the previous year.

Weighing of Live Stock. All pigs passing through the market were weighed, but there seems to exist little or no desire on the part of sellers and buyers to weigh cattle.

Transportation of Stock. During the year ending 1912, 38,000 trucks of live stock were received at the live stock market.

Very little improvement has been effected in the type of truck, and there still remains a great deal more to be done in improving the condition under which live stock is transported on the railway, and in expediting the service.

Live stock in many cases is badly treated, arriving often in a bruised and battered condition, and hardly a day passes without one or more animals being found dead in the trucks. Thousands of sheep arrived suffering from catarrh, due to exposure in open trucks.

Apart from the rough handling and shunting of trucks the animals were frequently allowed to stand during transit in the sun in open trucks for long hours.

Long and serious delays in live stock trains were of frequent occurrence, and the necessity exists for immediate reforms in this direction.

The erection of two additional railway sidings and off-loading platforms to accommodate the increased traffic has been put in hand. During the period under review twenty additional cattle pens, and nineteen additional sheep pens were erected. One hundred and eleven sheep pens were roofed over.

Bye-laws for controlling and regulating the public sale of animals by the Director of the live stock market were gazetted on the 15th November, 1912, and came into force on the 1st January, 1913.

Simon, v. Director. Simon claimed the sum of £100 as and for damages caused through the defendant, in his capacity as director of live stock market and abattoirs, for having read over to Endruleenas, the plaintiff's landlord, the bye-laws relating to private live stock sale yards, whereby the said Endruleenas, on hearing the penalty clause, was induced to request Simon to desist from further carrying on his business as auctioneer, and in consequence Simon alleged he had suffered serious loss and damage. The case was tried before Chief Magistrate Mr. Buckle, and without calling upon defendant for any evidence, and on the application of Messrs. Lance and Hoyle, gave absolution from the instance with costs against Simon.

Visitors. During the year the following visited the abattoir: Minister for Mines and Education, Earl Grey, Sir John Graham, Viscount Cranbourne, the Kimberley Society of Engineers, Delegates of the Royal Sanitary Institute Congress, Delegates and Representatives from various Government Departments and Municipalities.

The system of accounting in use is well shown in an explanatory diagram. It has been the subject of many enquiries, and has been adopted by other Municipalities. It contains a number of substantial features, provides full details with a minimum amount of work, and strong counter-checks to safeguard the Council's interests. The report concludes with a summary of the conditions of the meat-producing countries of the world, and a very promising forecast for the future of South Africa.

Prosecution by the R.C.V.S.

At Clacton on Monday, before Mr. T. Lilley (in the chair), Rev. F. Beadel, Mr. J. H. Sizer, Mr. H. N. Dunnett, Mr. J. L. Corser, and Mr. G. M. Thomson.

Mr. Harry Victor Fenn, a graduate of Toronto University, and a well-known local resident, was summoned by one Alfred Pollard for "taking an addition and description, to wit, M.T.C.V.S., thus stating or implying that he was a member of the Royal College of Veterinary Surgeons, at High Street, Clacton-on-Sea, on February 2nd, 1914." There was a second summons reading: "The like thus stating that he was specially qualified to practice veterinary surgery, at the same place and date."

Mr. G. R. Thatcher, London, prosecuting on behalf of the Royal College of Veterinary Surgeons, said that on the outside of the defendant's premises was a brass plate bearing the words "H. V. Fenn, M.T.C.V.S." Under the Veterinary Surgeons Act of 1881, the defendant had no right to put such letters after his name. In the present case the defendant was using the addition or description to imply that he was a member of the Royal College of Veterinary Surgeons. The facts were somewhat unusual. He understood that the defendant alleged that the letters meant that he was a member of the Toronto College of Veterinary Surgeons. As a matter of fact there was no such college; but there was a college situated at Toronto known as the "Ontario Veterinary College, Limited." The College issued diplomas, but they were not recognised in England, the course of study being two years in Ontario while in England it was four years. There was a real distinction and not a technical distinction. The real point was that he was misleading the public. He noticed that in the Clacton Directory it was stated "H. V. Fenn, M.R.C.V.S." He did not know whether it was a misprint.

Alfred Pollard, solicitor's clerk, residing at 56 Station Road, Clacton, said he inspected the defendant's premises in High Street on February 2nd last. The defendant carried on business as a veterinary surgeon, apparently, as indicated by the plate outside inscribed "H. V. Fenn, M.T.C.V.S." He produced a copy of the year book for Clacton and on page 87, was the entry "Shotley House, H. V. Fenn, M.R.C.V.S.," also a bill which stated "Dr. to H. V. Fenn, M.T.C.V.S." and a copy of the Veterinary Surgeons Register, but the defendant's name was not included in it.

Defendant said he never authorised anyone to put his name in the Directory.

The Magistrates' Clerk remarked that Mr. Thatcher had said it appeared, but it might have been a printer's error.

Defendant said that the letters he had had inscribed on his plate represented that he was a member of the

Toronto College of Veterinary Surgeons, Canada. He had his certificates to show and he would never have attempted to put the letters on the plate had it not been that four years ago he called on Mr. Bullock, Secretary to the Royal College of Veterinary Surgeons, at 10 Red Lion Square, London, and asked him if his Council had any objection to witness putting on his plate "M.T.C.V.S." Mr. Bullock replied, "Are you a graduate of that College?" and witness answered "Yes, I am, 1893, three years course." Mr. Bullock then said "I do not think they can stop you putting them on so long as you don't put "veterinary surgeon" on that plate." Witness came back to Clacton and gave an order for the plate to be affixed. He had never at any time represented himself as "Member of the Royal College of Veterinary Surgeons, London." Last Friday week witness was plaintiff in a slander action at Chelmsford when a few questions were asked regarding his degree, and Justice Bray said if witness was a graduate he did not see what harm witness could be doing in putting "M.T.C.V.S."

The Magistrates' Clerk said he was present on the occasion referred to, but he did not remember that remark being made; if it was then the learned Judge was wrong.

Defendant, continuing, said the plate had been up four years; why didn't they take steps before?

Mr. Thatcher: That is not evidence.

The Chairman: Are you going to call Mr. Bullock? Defendant: Certainly not.

The Magistrates' Clerk: If this gentleman did tell you that, he told you something that was wrong. Would you like to have an adjournment to call this gentleman, but then I do not think this will be any answer to the case as everyone is supposed to know the law.

Mr. Thatcher said he had seen Mr. Bullock, but that gentleman mentioned nothing about what Mr. Fenn had said.

The Chairman: Do you wish for an adjournment?

Defendant: No, I do not wish for it. He had never used "veterinary surgeon" since he was prosecuted four years ago.

The Magistrates retired for private consultation and on their return the Chairman said they found the defendant guilty of the offence and he would be fined £5 and 4s. costs. This was not the first occasion and he (the Chairman) would like to point out, that if the plate continued defendant would be liable to a penalty of £20.

Defendant asked to be allowed to the end of the week in which to pay, which request was granted.

On leaving the Court the defendant remarked in an undertone that he was very much obliged to the gentlemen who had moved in the case. He thought he now knew who they were.—*The Illustrated Clacton News*.

[We are informed that Mr. Bullock absolutely denies that any such conversation took place as alleged by the defendant. Further, that the statement made by Fenn was not on oath].

Women Solicitors—A Coming Bill.

A Bill has been drafted, and is to be introduced, if possible, in the present session, for removing the existing disability of women to enter the legal profession. The Bill is the outcome of the recent decision of the Court of Appeal that women were not entitled to enter the legal profession, for the simple reason that there had never been a woman solicitor, a negative fact which, it was held, had become part of the common law of England. The Master of the Rolls expressed the view that it was for Parliament, and not for the judges, to remove the disability.

Miss Babb and the three ladies who had joined with her in bringing forward the test case, Miss Costelloe, Miss Ingram, and Miss Nettlefold, devoted their energies to getting a Bill drafted, and a committee has been formed, among its members being Lord Wolmer, M.P., Lord Robert Cecil, M.P., Mr. J. W. Hills, M.P., Mr. George Radford, M.P., Mr. S. Garrett, and Dr. Jane Walker. The committee has sent a letter to every Member of Parliament urging the justice of the admission of women to the roll of solicitors, and enclosing a copy of the proposed Bill, which consists of two short clauses.

The committee point out that the profession of solicitor is one which women are clearly fitted to practice, and where they would be doing work for which there is already a need and a demand. It is further contended that the contemplated alteration of the law is required to meet the changes brought about by modern conditions. Women are now educated and expected to earn their own living. It is no longer right, therefore, to keep shut against them any profession which they are qualified to practise.—*Daily Telegraph*.

Glanders in London.

During the five weeks ended January 10th, there were 106 cases of glanders in London reported by the County Council's veterinary inspectors. All the animals were slaughtered, and compensation amounting to one-half of the value of the animal was paid to the owner in each of the 102 cases in which the disease was diagnosed by the mallein test. In the remaining 4 cases, which were diagnosed clinically, minimum compensation of £2 was paid. The number of animals slaughtered during this period is due to a serious outbreak in the stud of a firm of carmen and contractors. The first indication was obtained through a horse cast from the stud being found, three weeks after purchase, to be affected with the disease, and on the firm's horses being tested throughout 89 animals in all, out of a stud of about 250, were slaughtered. This particular stud had never been previously tested with mallein by the L.C.C. inspectors, and there was nothing in the general appearance of the horses to anticipate a disclosure of the disease.

About Tuberculosis and the Order.

At a meeting of Council of the British Dairy Farmers' Association, Sir Sidney Pocock, J.P., the Association representative on the Tuberculosis (Animals) Committee, reported what had been done by that body, and with regard to the statistics that were to hand on their investigations up to the end of September last, to the effect that out of 8,162 cows that were tested only 220 samples of milk were found to be tuberculous. After the way the public had been cautioned by scientific men against drinking milk which might be affected, and generally frightening them, it was the duty of the Association to disillusion their minds, as it was not so very terrible after all, taking into consideration the fact that it had not yet been proved that the milk from a cow with a tuberculous udder could transmit the disease to human beings. He considered the public had been frightened unnecessarily. The cost of administration and compensations paid amounted to £11,998, of which only £3,246 was for compensation when the animals had been slaughtered, which was a very inadequate amount to compensate the farmers according to the scale fixed by the Board of Agriculture, and the Order had proved a failure in many respects. It is proposed to discuss the matter further when the figures for the end of the year are available.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.		Out-breaks	Slaugh-tered.*
	(a)		(a)		(b)		(b)		(b)	(a)	
GT. BRITAIN.											
Week ended Feb. 21	12	12	1	4	3	3	76	132	5	63	487
Corresponding week in											
1913 ...	15	16			1	1	90	165	10	29	280
1912 ...	29	32			6	9	102	229	6	56	940
1911 ...	23	30			4	20			19	21	265
Total for 8 weeks, 1914	149	159	1	4	18	40	685	1323	102	423	3786
Corresponding period in											
1913 ...	103	116			27	85	689	1504	89	267	3136
1912 ...	206	234			23	46	1110	2712	114	483	6211
1911 ...	178	202			39	155			234	273	3070

(a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked: Essex 1, London 2.
Board of Agriculture and Fisheries, Feb. 24, 1914

IRELAND. Week ended Feb. 21	...	...	...	...	...	...	Outbreaks	20	2	21
Corresponding Week in										
1913 ...	...	...	...	...	...	...	2	26	...	4
1912 ...	...	...	...	...	...	...	3	15	5	22
1911 ...	...	...	...	...	...	...	2	11	...	51
Total for 8 weeks, 1914	...	...	2	28	...	...	23	200	29	209
Corresponding period in										
1913 ...	...	...	...	...	...	...	63	161	34	161
1912 ...	1	1	...	...	...	...	20	158	21	192
1911 ...	3	3	...	...	...	...	21	159	23	459

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Feb. 28, 1914
NOTE.—The figures for the Current Year are approximate only * As Disposed or Exposed to Infection

The R.A.S.E. Demonstration: Steamed Milk.

At the monthly Council of the Royal Agricultural Society of England, in the Veterinary Committee:—

The Earl of NORTHBROOK reported his election as Chairman for the year.

The Committee recommended that a donation of 25 guineas be made by the Society to the funds of the Organising Committee of the Tenth International Veterinary Congress to be held in London this year.

On the motion of Mr. Mansell, seconded by Mr. Stanyforth, it was resolved:—

"That a letter be addressed to the Board of Agriculture expressing the opinion that as sheep scab has now been reduced to comparatively narrow limits, the time has arrived when regulations of a more drastic character should be introduced by the Board with a view to the complete eradication of this disease from the country."

TUBERCULOSIS EXPERIMENT.

The Earl of NORTHBROOK said that the report had been presented at the last meeting, but that any discussion had been postponed until the present meeting. The report was extremely clear, and the appendix to it gave all the details of temperatures and the various examinations, with the results of those examinations.

Mr. MIDDLETON said that it was with regret that he rose to say a few words against the report, but he did not think that its circulation would do the Society any good. He had been from the first opposed to the demonstration, for the reason that it had already been

proved that healthy cattle could be raised from tuberculous parents if they were kept away from all sources of infection. He was not at all sure that the cure was not worse than the disease.

Mr. ADEANE said that he was responsible for moving that the demonstration be carried out. He would like to state that he could not agree with what had fallen from Mr. Middleton. Of course, it was a personal view, but he thought the experiment had been extremely valuable, and very satisfactory as a demonstration. They were not all so fully alive to the diseases of animals as Mr. Middleton supposed. He hoped that the report would be widely circulated, and that some steps would be taken to advise farmers throughout the country, who undoubtedly had a great deal of disease throughout their herds, how best they could treat it. He would like the Veterinary Committee to draw up some scheme of advice for farmers. He happened to know, having had to purchase cattle in the North of England, that there existed tuberculosis—or whatever caused reactions, whether tuberculosis or not—all over England. He thought the report valuable, and that they should do all they could to extinguish the disease.

Mr. BROCKLEHURST said he would like to ask one question. He thought the members of Council would see that nearly all the calves were attacked with white scour, and that he would like to ask whether that was due to the fact that the milk was sterilised. There had been a good deal of correspondence in the papers lately suggesting that the sterilisation of milk, although it destroyed the bacillus, at the same time destroyed the nutritive value of the milk.

Sir JOHN M'FADYEAN, referring to Mr. Brocklehurst's question, said that, so far as he was aware, there was no experience and no experimentation to support the view that milk from the nutritive point of view was injured in any way by steaming or boiling. One had frequently seen statements to the contrary within comparatively recent times, but his strong impression was that the people who published those views had not taken the trouble to examine the evidence. He was perfectly certain that one could say, by what had actually happened, that not only calves but children could be reared on milk that had been steamed. Thousands of calves had been reared on steamed milk. He did not himself think there was any connection whatever between the use of the partially heated milk employed in the experiment and the occurrence of white scour. It was a well-known fact that every year outbreaks of white scour occurred throughout the country, and broke out in animals under the most diverse conditions. White scour was practically always a bacterial disease and infectious, and they had been the victims of misfortune in their experiment. He denied strenuously, and he hoped the opinion would not be put about, that those calves died because the milk had been heated to about 200 deg. Fahrenheit. He was sure the Council hardly wished him to express any opinion as to the value farmers would place on the experiment, but he thought he might be allowed to say that Mr. Middleton was in error in supposing either that young cattle were less susceptible to tuberculosis than older cattle, or that there had been any occasion whatever to keep the animals alive any longer than they did in order to see whether tubercle bacilli had been inherited from their parents. It was an old view as to the latency of tuberculosis, but he thought it had been entirely discarded by all people who had studied the question in recent years. It had been said in pre-bacteriological days that the germs were generally communicated by tuberculous parents to their progeny, the fact that the disease did not disclose itself in early life being explained by saying that the germs in young human beings or young cattle for some reason or other had their development restrained, and did not multiply until the individual was approaching adult life. That was absolutely contradicted by experiments. As a matter of fact, it had been found that tubercle bacilli developed and multiplied quicker in young cattle than in old cattle. Tuberculosis was less frequent in calves than in old cattle, but that was because young stock were not exposed to the same risks, as older cattle were more closely housed along with animals already tuberculous.

Lord NORTHBROOK said that he was in rather a peculiar position, for in 1910 he opposed Mr. Adeane's proposal, as he had thought it unnecessary to spend their money demonstrating a fact already acknowledged by all persons who had given serious attention to the subject. Up to that point he agreed with what had fallen from Mr. Middleton, but as the Chairman of the Committee that carried out the demonstration, he could not follow Mr. Middleton in his further expression that it would be better for the report not to be circulated. As to whether or not they would succeed, as Mr. Adeane and Mr. Mansell hoped, in convincing farmers that it would be possible to rear healthy stock from reacting parents—a fact they would not believe when it was put before them by experts—he could not express an opinion, but he did think the report had a great deal of valuable information in it that would be of great interest to the stockbreeders of the country. With regard to what had fallen from Mr. Adeane that some sort of epitome should be drawn up by the Veterinary Committee, he would say that that should have their consideration.

The report on the Tuberculosis Experiments was then adopted.—*Live Stock Journal*.

TENTH INTERNATIONAL VETERINARY CONGRESS, LONDON, Aug. 3—8, 1914.

At a meeting of the Executive Committee, held at the Royal College of Veterinary Surgeons, 10 Red Lion Square, London, W.C., on Monday, February 9th. Present: Sir John M'Fadyean in the chair, Colonel J. Moore, Major A. G. Todd, Prof. G. H. Wooldridge, Messrs. Alex. Crabb, H. A. MacCormack, T. S. Price, J. Willett, F. Bullock, and Sir S. Stockman (honorary secretary).

Constitution. The CHAIRMAN reported the constitution of the Committee as follows: Resolution of the Organising Committee, January 9th, 1914:

"That the following be appointed an Executive Committee, with power to add to their number:—Chairman, Honorary Secretary, Treasurer, Messrs. Banham, Barrett, Crabb, Hobday, Jackson, Col. Moore, Messrs. MacCormack, Price, Willett, and Prof. Wooldridge."

The HON. SECRETARY explained that each member of this Executive Committee would probably have to take up at least one particular matter in connection with the Congress which would require his constant attention, including a good deal of running about London. On this account most of the members of the Committee had been chosen from amongst those who lived in or near London. The Committee would have to be extended in order to avoid its members being over-burdened.

A discussion took place regarding whether it would not be advisable to ask members resident at a distance from London to join the Committee, especially having regard to the fact that it was proposed to institute excursions after the Congress to Ireland, Scotland, and various parts of England.

It was resolved:—That the Secretary be instructed to ask the Veterinary Medical Association of Ireland to nominate representative veterinary surgeons to the number of eight to the General Organising Committee in addition to those who are already members, and four to the Executive Committee.

Reporters. A list of reporters up-to-date was also considered, and it was resolved to ask Mr. Prentice of the Irish Department, to act as reporter on the subject of swine fever, or, if he found himself unable to do so through pressure of work to suggest a member of his staff.

Invitations. It was resolved:—

(a) That invitations be addressed to all Municipal Corporations and County Councils employing a whole time veterinary surgeon, inviting the appointment of a delegate to the Congress, the delegate's fee being fixed at £1.

(b) That the Colonial Office be requested to issue invitations to Veterinary Schools in British Dominions.

(c) That invitations be addressed by the Honorary Secretary to the Governors of British Veterinary Schools.

(d) That all Breeding and Agricultural Societies who have been invited to subscribe, and who have subscribed to the funds of the Congress, be asked to appoint a delegate to the Congress.

(e) That the Honorary Treasurer be instructed to invite subscriptions from the British Dairy Farmers' Association, and from the Kennel Club.

Exhibition. The queuing of the allotting of space for the proposed exhibition of drugs, instruments, etc., was considered, but the matter was adjourned to the next meeting in order that plans of the space available might be obtained.

Excursions. Prof. Wooldridge submitted estimates for excursions supplied by Messrs. Thomas Cook & Son, and, after discussion, it was resolved that the following excursions be arranged:—

- (a) Excursion to Windsor on Saturday afternoon, August 8th.
 (b) Excursion to Pirbright on Sunday, August 9th, or Monday, August 10th.
 (c) Excursion to Cambridge and Newmarket on Monday and Tuesday, August 10th and 11th.
 (d) Excursion to Oxford and Stratford-on-Avon on Monday and Tuesday, August 10th and 11th.
 (e) Excursion to the Isle of Wight and the New Forest, Wednesday—Friday, August 12th—14th.
 (f) Excursion to Scotland and the Lakes, Monday to Saturday, August 10th—15th.
 (g) Excursion to Ireland, including Killarney, Monday to Saturday, August 10th—15th.

The question of arranging for parties to visit places in London was referred to the Ladies Committee.

The consideration of other matters on the Agenda was referred until the next meeting.

Foot-and-Mouth Disease.

The existence of foot-and-mouth disease was confirmed on Sunday, the 22nd, amongst cattle at Bradley Green, near Redditch, County Worcester.

The existence of foot-and-mouth disease has been confirmed on Monday, 23rd inst., amongst cattle on two separate premises in the City of Liverpool.

Precautions were taken to prevent the spread of the disease, and an Order has been issued prohibiting the movement of animals in the City of Liverpool and in a large area surrounding the city.

In the House of Commons on the vote for the salaries and expenses of the Irish Department of Agriculture, Mr. RUSSELL said: "It was a remarkable fact that at no other landing place, except Birkenhead, was any disease of the kind discovered—(Nationalist cheers)—although these animals also came from the same quarters of Ireland. In the inquiry that would take place that fact must bulk largely. All the animals shipped from Ireland were carefully examined. In ten days the inspectors had critically examined 37,000 animals in different parts of Ireland, but had not found a single one affected with disease of any kind."

With regard to the Redditch outbreak, the cattle left Ireland on Jan. 30. They were kept at Birkenhead for eight or nine days, and no case of disease was discovered until last Saturday. If the disease came from Dublin that would give an incubation period of 21 days—a period never heard of in the history of the disease."

Anthrax at Denton, Cheshire.

On Friday last a case of anthrax at Henfold Farm, Denton, was discovered by the sanitary inspector (Mr. Brocklehurst), who immediately reported the matter to Police-Sergeant Birrell, and to the Council's veterinary surgeon, Mr. New, of Ashton-under-Lyne. The latter made a microscopical examination of the blood specimen, and diagnosed the case to be one of anthrax. The county authorities' veterinary surgeon took a portion of the spleen for microscopical purposes, and pronounced that the cow had died from anthrax. The Board of Agriculture have confirmed the opinion. The police had the carcass destroyed by fire, and the premises and surroundings thoroughly disinfected. The most stringent precautions have been taken. We understand that it is 30 years since a case occurred in Denton previously. The more serious aspect of the case is that a local butcher has contracted the disease, and has been removed to the Manchester Infirmary.—*The North Cheshire Herald*.

Hunting Memorial Fund.

Subscriptions received up to 7 p.m., Feb. 25th, 1914

	£	s.	d.
Amount previously acknowledged	229	7	6
Irish Central Veterinary Association per			
E. C. Winter, F.R.C.V.S., Limerick	3	3	0
Mr. F. W. Garnett, J.P., Windermere	1	1	0
G. Wartnaby (F), Burton-on-Trent	1	1	0
Major G. K. Walker, I.C.V.D., Lahore, India	1	1	0
Veterinary Medical Association of Ireland:			
Mr. W. C. Patrick (F)	1	1	0
J. McKenny	1	1	0
J. B. Dunlop	1	1	0
Prof. J. F. Craig	1	1	0
Mr. A. Watson	1	1	0
W. H. Wilkinson	1	1	0
Prof. J. J. O'Connor	1	1	0
Mr. Wm. Jas. Anderton, Skipton	1	1	0
C. Jones, Portal Inspection Office, Dublin	1	0	0
Messrs. G. Elphick & Sons, Newcastle-on-Tyne	2	2	0
Prof. Wooldridge, R.V.C., London	1	1	0
Royal Counties V.M.A.,			
per G. P. Male, Reading	5	0	0
Capt. H. E. Gibbs, A.V.C., Abbassia, Cairo	1	1	0
Mr. J. M. Tate, G.V.S.,			
Union Depart. of Agric., S.A.	11	0	
	£254	16	6

HENRY GRAY, Hon. Sec. & Treas.

23 Upper Phillimore Place, London, W.

Cheques endorsed "Hunting Memorial Fund" and crossed "The London, City and Midland Bank, Ltd."

A "Side-issue" in Surgery.

"It is rather remarkable that though there have been many experimental researches on the subject of fractures and their healing, almost all of these have had relation to the origin and formation of callus; and none, as far as I know, have been carried out to test the principles of the operative treatment. Experiments on animals cannot tell us much about non-operative treatment of fractures, because such treatment leads to so much deformity that in veterinary practice an animal with a bad fracture is not treated, but killed. But they can give us information about the operative fixation of bones, which is to be obtained from no other source, and as a side issue this study will provide, for any who care to take it up, a perfectly efficient method of treating the broken bones of animals, so as to save for usefulness and breeding many a valuable horse or dog."

[In a lecture on "The Operative Treatment of Fractures," by Mr. Ernest W. Hey Groves, M.S.LOND., F.R.C.S.ENG., Hunterian Professor of the College.]—*The Lancet*.

Queensland, Australia, takes the premier place in the Commonwealth for cattle, and its stations may be found from the southern border below Cunnamulla to Cape York, and from Bowen to Burketown, the herds now numbering about 35,000, comprising 5,210,891 head, the question of the future is important. The demand for fat stock is very active, and likely to advance, not only for the meat works of the State, but for the works in New South Wales, where they are slaughtered and frozen and shipped in direct liners to supply the Canadian and American trade. Much of this export trade might be kept within the State if a direct line of steamers were running from Brisbane to Vancouver or San Francisco.

Personal.

Mr. C. C. NESLING, M.R.C.V.S., Framlingham, is Secretary for the Framlingham Live Stock Show (July 23).

His Majesty the King held a Levée on Feb. 24th, at St. James' Palace. The following presentations to the King were made, the names having been previously left at the Lord Chamberlain's office, and submitted to His Majesty for approval:—

* * * *

Lieut. A. J. Curtis, Army Veterinary Corps (T.F.), by Maj. R. A. Newill.

Mr. Frederick Hobday, F.R.C.V.S., Hon. Vety. Surgeon to the King, by the Master of the Horse.

The following Noblemen and Gentlemen attended the Levée:—

* * * *

Vet.-Maj. E. P. Barry.

CORRESPONDENCE.**"SUITABLE APPLICANTS" FOR COLONIAL APPOINTMENTS.**

Sir,

I have just been reading an extract in your number of December 27th, 1913, from *The Friend* (Bloemfontein) containing remarks said to have been uttered by Dr. Theiler at the African Club, Maritzburg, which I think cannot have been correctly reported, or, if they have been so, then I think they are rather unfortunate remarks and calculated to create a wrong impression.

As a former student under Dr. Theiler in Pretoria, I cannot seriously believe that "he intends to look to young South Africans for assistance in research work in South Africa." No doubt motor cars are partly responsible for a falling off in intending veterinary students, but whilst this undoubtedly deters them from thinking of private practice, it will certainly not act as a deterrent for Colonial veterinary research work.

We hear on all sides that never was there such a demand for the Colonial veterinary man, and yet with men holding the diploma of the R.C.V.S. and the post-graduate diploma specially designed for such men, we are asked to believe that suitable men cannot be obtained. If it is a fact we must look for the cause, and not accept wild statements. Either it is suggested that the expensive, protracted training that qualified men have put themselves to is not up to the standard required when they offer themselves for colonial work, or there is some objection on the part of an otherwise suitable candidate to the conditions of service.

The first suggestion is a very serious one and hardly likely to be true, casting, as it would, very serious aspersions on the teaching at the veterinary schools which is not warranted, and reducing the post-graduate course to a farce.

Dr. Theiler is intimately conversant with this teaching, and he would, I feel sure, be the last to question the thoroughness of the knowledge imparted by his colleagues at the schools, or to suggest that diplomas are granted to men unfitted to hold them.

Veterinary research work is a special branch of the profession, and it is not possible for any College or Post-Graduate Course to turn out the "finished bacteriologist" in this respect any more than it is possible to turn out the young graduated M.R.C.V.S. of 21 with the practical experience of a man twice that age. The qualified aspirant for colonial veterinary work, just as his private practice colleague, starts with a good ground work of knowledge, which is the framework his practical field experience will be built upon. This experience can only be obtained by practical work at the seat of disease and under conditions in which this disease exists in its natural haunts abroad. A man may be

excellently equipped with the knowledge, but the conditions under which he will be called upon to successfully apply it in a rough country will often turn out to be very different to the glowing picture conjured up in his mind on reading the terms of the appointment. There are many points that crop up to rob the "fine berth" of some of its glossiness when he reaches the seat of his labours, and he may often wish he had not jumped so quickly at the gilded bait before striking a better bargain with the authorities at home.

In a good many Colonies where the Veterinary Department is firmly established on its own basis, with a practical veterinary surgeon at its head, the conditions leave very little to be desired; but, in other cases, where the veterinary department is only an "offshoot" of another department, its services are not suitably recognised or the remuneration in proportion to the work expected of them.

In one Colony where the veterinary is a branch of the medical department, the highest pensionable salary the veterinary surgeon can attain to is £540, and this only after 12 years service; whereas his medical confrères attain to £720, after which the following promotions are open to them, viz., one at £1,020 to £1,200 and four at £800 to £1,000. The argument I have heard used in this case is that human life is more valuable than animal. Nobody wishes to contradict this, but we, as responsible for the animal kingdom, are called upon to undertake hardships and inconvenience "up country" that are not associated with the medical work. We have our own microscopical diagnosis and other scientific work to do in our own sphere similar to that of the medical, but carried on often under far less auspicious circumstances.

A lot of "soft soap" is always dished out at dinners when a medical officer, in proposing the health of the veterinary profession, invariably comments in congratulatory terms on the immense strides that scientific veterinary research has made. He is quite right, but when the two departments are working side by side in a colony and both turning out good work, why is this invidious distinction made?

No, sir! do not let us hear any more sentimental "clap-trap" about not being able to get suitable men; there is very little lack of them, but, as reasonable men, they expect their professional services to be suitably remunerated, and are at present prepared to say "No, thank you." It is about time the veterinary profession came into line and had our services properly recognised. The medical have always shown us the way in fighting for what they want and they get it, and it is up to us to get even; the sooner this is done the better.

Some who have jumped at a "gilded pill" of £300 to £400 abroad have learnt to their cost that all is not gold that glitters; it is not for them to grumble, and they signed on with their eyes open (or should have done), but having jumped into the soup themselves there is no reason why they should not warn other impetuous individuals to pause and consider well first.

Some of us are egotistical enough to consider that our services in our own department are as valuable to a colony as the medical. The Government as yet have not seen it in that light; we should be greatly obliged if they could be made to. As officials we are not able to openly agitate, but we pin our faith on those at home who "father" the appointments to help us. Why not have a Commission to enquire into this dearth of applicants for Colonial appointments?

Assuming there is a dearth, so much the better for those who apparently are suitable at present, they are in a better position to dictate suitable terms. I think the time has arrived when the subject of adequate payment for colonial service should be gone into, and the veterinary departments placed on their own footing in colonies where at present they are merely "off-shoots."

When this is done I think the "scarcity of suitable men" bogey will have been exploded, and the conditions of some appointments will not have to be "veiled" to conceal the fact that the applicant is required to serve in a certain place that would "crab" the post at once if openly admitted.—Yours very truly,

"EAST OF SUZ,"

January 23rd, 1914.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1339.

MARCH 7, 1914

VOL. XXVI.

THE PROFESSION AND THE STATE.

From time to time we have reprinted portions of the reports of Indian and Colonial State veterinary departments; often we have had to pass over others unnoticed in our pages, owing simply to exigencies of time or space. Much that is included in these reports only appeals directly to a relatively small section of our readers, yet there is always something, either directly or inferentially, of general professional interest in them—those we print this week help to summarise the progress of protective inoculation in a large field.

But there is one outstanding feature common to all of them—they are records of work faithfully done; work unquestionably of considerable value to the State, although their money value cannot be definitely stated.

These men are diplomates of the R.C.V.S., graduates of our teaching colleges; and it is a fair inference that other men in the profession, to whom the opportunity for such work has not fallen, are equally capable. Do not these records go far to justify the claim of our profession to a better recognition than it has yet received? A young profession—our first Charter is dated just 70 years ago; numerically small—our Register carries 3408 names; with a range of work from that of the country practitioner with farm animals for the bulk of his patients, to those aiding the Public Health work of our cities with populations of three-quarters of a million, and the men in charge of the animal health of huge districts in India and the Colonies; yet the Tuberculosis Order, 1913, is the first official acknowledgment in this country of our capacity to serve the State in a larger measure.

MR. MOND ON TUBERCULOSIS IN COWS.

During the last month or two paragraphs and letters have appeared concerning the views of Mr. Mond on the sterilisation of milk and the production of a pure milk supply. This week we report an address to a meeting of Cheshire farmers in which Mr. Mond gives a fuller exposition of his views, with some remarks on the value of the tuberculin test and on tuberculosis in cows. With the results of sterilisation we are not immediately concerned, but the remarks on the disease in cattle are likely to prove mischievous, for they deal with a part of the question only—the transmission to man, or rather to infants, and only tend to confuse the question of the animal disease.

Reports, both in this country and abroad, testify to the varied and often unsuspected manifestations of the disease in animals. For years past practitioners have striven against the dissemination of

tuberculosis, with almost daily experience of neglect of the disease and its infectious nature by farmers, many of them ignorant, many careless, and nearly all very humanly objecting to destroy property which they could turn into money. Mr. Mond tells them that tuberculosis is of little importance; that he would not hesitate to sell an animal which reacts to the tuberculin test in a market; that probably not more than 5 per cent. of the cows suffer from anything which may decently be called tuberculosis: that milk from a reacting cow is no worse than another unless emaciation or other unfavourable symptoms supervene.

How well these pronouncements jumped with the views of his audience may perhaps be judged by the fact that they accorded him a vote of thanks by rising and singing "For he's a jolly good fellow."

PHARYNGITIS, WITH CERVICAL ABSCESS OPENING INTO THE TRACHEA.

Janin reports (*Journal de Méd. Vét. et de Zootechnie*) the following case. During the course of an epizootic of angina and phlegmonous pharyngitis, a horse was brought into the infirmary with a temperature of 102° F. The animal was salivating abundantly, but the appetite was good.

After two days the salivation disappeared, but the temperature rose to 104.7° F., and a discharge, which was evidently alimentary, was rejected by the nostrils. Deglutition was difficult, and the pharyngeal region was very sensitive to pressure, clearly indicating pharyngitis. This was treated by applying a blister round the throat, and administering an electuary composed of honey and turpentine.

During the following days the appetite persisted, but the dysphagia was so great that all oats were rejected by the nostrils in a dough-like form, and the unsuccessful attempts to swallow were invariably succeeded by a fit of coughing.

In the other animals affected during the epizootic, the disease had always taken a rather rapid course, and although sometimes the symptoms had been alarming, had always terminated in a clear resolution. The case in question took a different course. The symptoms persisted, though they became much less acute, and a dry and intermittent cough, with a mucous nasal discharge which on rare occasions was very slightly purulent, threatened the establishment of a chronic pharyngitis.

A seton was now inserted into each parotid region. A diffuse puffiness then appeared on the left thyroid region, and was explored with a trocar without result. During the following days this swelling remained stationary, almost insensitive,

showing no fluctuating point, and causing no trouble to the animal. Two further attempts to discover fluid within it were made by incising the skin and lacerating the subjacent tissues, but no success was attained. Nevertheless the horse preserved good spirits and a certain amount of appetite, till one morning he was quite unexpectedly found dead in the stable.

Post-mortem, in addition to lesions of secondary importance, it was found that the region corresponding to the posterior part of the larynx and to the first rings of the trachea was hidden in an œdematous lardaceous connective tissue which surrounded all the muscles of the tracheal region and also the thyroid bodies, particularly the left one. The larynx and the trachea could only be isolated by excising a veritable fibro-œdematous "muff," and some of the tracheal rings were damaged during this operation. On the left side the jugular and carotid were completely shut in, as was also the œsophagus, the fleshy tunic of which was united to the reactional fibrous tissue.

Between the neck and the posterior part of the trachea was an abscess, bulging to the left, and extending exactly from the third to the eighth tracheal ring. The pus had penetrated the posterior part of the trachea between the third and fourth rings, had then burrowed underneath the tracheal mucous membrane from the third to the sixth ring, and had finally penetrated into the trachea by two oval and closely adjacent openings, which appeared as if cut by a punch.

The original abscess had resulted from suppuration of the most posterior lymphatic glands of the left retro-pharyngeal group, or, more probably, of the small middle cervical glands. The abscess, protected by the trachea and tracheal muscles, and encysted in fibro-lardaceous reactional tissue, had not been reached by the repeated surgical explorations, and had finally burst into the trachea.

The case teaches that deeply situated abscesses behind the trachea should never be left to take their own course. They should be operated upon early by a careful dissection, so as to reach the purulent centre without injuring the important structures of the jugular furrow.—(*Annales de Méd. Vét.*)

A SPECIFIC EPIZOOTIC FORM OF NECROBACILLOSIS IN THE GOAT.

Pesadori describes (*La Clin. Vét.*) a very contagious affection of the claws, peculiar to goats, which appeared in some Calabrian districts at the beginning of last winter, and affected about 10,000 animals in the course of two months. Sheep and cattle, kept under the same conditions as the goats and constantly exposed to infection, remained free from disease.

The disease begins by a limping upon one hind foot, and a few hours later the animal is going upon three legs. The cleft of the claws and the rim of the coronet swell considerably, and the foot is hot and sensitive to pressure. A fluctuating centre soon appears at one point, opens, and discharges a

crumbly, thick, dirty pus, mixed with blood and shreds of necrotic tissue. The animal is depressed, refuses food, groans, and is feverish. The fever is slight at the commencement, and afterwards increases with the extent and severity of the lesions of the claws. She-goats with kids lose their milk during the acute stages, and pregnant animals sometimes abort.

If the disease is neglected, the necrotic and suppurative process extends and leads, if no operative interference is undertaken, to septicæmia and death. If treated early with disinfectant, astringent, and desiccant agents, the disease takes a comparatively short and mild course, lasting about eight to twelve days. But it often occurs that, after healing of one foot another becomes affected, and the animal then loses greatly in condition, and not rarely dies of marasmus.

The cause of the disease is probably the necrosis bacillus, which finds entry into the organism through slight solutions of continuity in the horn of the claws and in the cleft of the claws. Extreme moisture of the ground, by its softening and loosening action upon the horny tissues, favours infection.—*Berliner Tier. Woch.*

DERMATOMYOMA IN A CAT.

The dermatomyoma or dermatoleiomyoma is usually a multiple tumour, and is very slow and benign in its evolution. It is very rare in man, and hitherto unknown in animals.

Ball now records (*Journal de Méd. Vét. et de Zootechnie*) the following case in a six-year-old cat. Behind the shoulder, to the right of the middle line of the back, was an oval neoplasm about 3.1-5th inches long by 2.2-5th inches broad, involving both the skin and subcutis. The skin, which was in union with the neoplasm, showed a certain degree of alopecia; it appeared slightly translucent in one point, near which was a fistulous orifice giving exit to a yellowish-brown purulent liquid. The neoplasm was firm in consistence, but was hollow; its centre was traversed by an elongated cavity following its grand axis.

On the left side of the thorax was a second neoplasm, similar to the first, but smaller.

Histologically, these neoplasms were found to be dermatomyomata. They were constituted by clusters or bundles of smooth muscular fibres running in all directions, and united by an insignificant framework of connective-elastic tissue.—(*Annales de Méd. Vét.*)

NEOPLASMATA IN THE TESTICLE.

R. Galli describes (*Il nuovo Ercolani*) several of these cases. One was an enchondroma of the left testicle in a three-year-old colt. The tumour had a lobulated appearance, and consisted of a fibrous tissue, in which numerous islands of hyaline cartilage, often ossified in the centre, were imbedded. The cartilage cells, most of which were uninuclear, were generally round or oval, but occasionally also they were spindle-shaped. In the neighbourhood of the islands of cartilage, between the connective tissue fibres, young round cells occurred which ap-

peared similar to sarcoma cells. Fat occurred in places, in both the connective and cartilaginous tissue.

The testicle felt lumpy when palpated. It was rounder in shape than usual, in consequence of an increase in its transverse diameter; and it weighed 160 grammes (= about 5.5-8th oz.) The epididymis was atrophied.

Three cases of fibroma of the testicle are also described. Two were in asses, one in a horse. All three animals were of advanced age. The tumours were benign fibromata, hard in consistence, and ranging from the size of a pea to that of the fist. They commenced from the tunica albuginea, and were either attached to the testicle by broad surfaces or adhered to it in the form of cords of varying thickness. In one case (an ass) both testicles were affected, the right one weighing 385 grammes and the left 207 (very approximately these weights equal 6.7th lb. and 3.7th lb.—(*Berliner Tier. Woch.*)

W. R. C.

"A DESCRIPTION OF THE IMPERIAL BACTERIOLOGICAL LABORATORY, MUKTESAR: ITS WORK AND PRODUCTS."—By Major J. D. E. HOLMES, M.A., D.Sc., M.R.C.V.S., Imperial Bacteriologist. Calcutta: Superintendent Government Printing, India, 1913.

[ABSTRACT.]

In 1890, the first step was taken towards providing facilities for the investigation of the diseases of stock in India. Dr. Lingard was appointed as Imperial Bacteriologist in connection with the Laboratory at the College of Science, Poona. His duties were thus defined.

"To investigate diseases of domesticated animals in all Provinces in India, and to ascertain, as far as possible, by biological research both in the Laboratory and, when necessary, at the place of outbreak, the means for preventing and curing such diseases."

For some years Dr. Lingard worked in the Poona Laboratory mainly on the investigation of Surra in horses. He found, however, that the climate of the plains rendered laboratory research work extremely difficult and was also little suitable for the manufacture and preservation of vaccines and serums. Consequently, in 1893, it was decided to remove the Laboratory to a suitable site in the Hills, and Muktesar was selected for this purpose.

In 1895 the Laboratory main building (part of which was used by Dr. Lingard as his residential quarters), a post-mortem house, two out-houses, one cattle shed, a bungalow for the Assistant Bacteriologist, and an out-Kraal for cattle were completed. The staff consisted of the Imperial Bacteriologist, Assistant Bacteriologist, one native laboratory assistant, three clerks, one artist and some menials. At this time the investigation of rinderpest and measures of prophylaxis were taken up, and in the following year Professor Koch, at the request of the Government of India, visited Muktesar and demonstrated his bile method of inoculation against rinderpest. During the following three years rinderpest, and the methods of preparing a potent antiserum, were further investigated. Two more cattle sheds, a sterilising house, snow well and cold room were added to the buildings.

In 1898 Dr. Lingard was compelled to return to England on sick leave for two years. During this time Major Leonard Rogers held charge of the Laboratory and continued the experiments on rinderpest antiserum.

In 1899 a fire broke out in the western end of the laboratory and the whole building was completely burnt down. The reconstruction of the laboratory was at once commenced. A water supply scheme was taken in hand, and also sanction was obtained for the establishment of a branch laboratory at Bareilly, for the purpose of carrying out certain investigations during the winter months of each year.

A potent rinderpest serum having been prepared, and its application in outbreaks of the disease having met with success, a large and increased demand for the serum arose. To provide facilities for the preparation of a sufficient supply of the serum, more cattle sheds, and out kraals were built, the staff was also increased and more land was taken up for the accommodation of cattle and providing fodder.

In 1898 Mr. Kriebel was appointed Head Laboratory Assistant, and posts for two veterinary assistants and a farm jamadar were sanctioned.

In 1901-2 Lieut. Holmes relieved Lieut. Walker as Assistant Bacteriologist.

From 1901-1904 the preparation of antisera for anthrax and hæmorrhagic septicæmia, of blackquarter vaccine, and of mallein were added to the list of work. Further accommodation was provided for this increase of work, a second European laboratory assistant was engaged, and other additions made to the staff. Oil engines and large centrifuges were installed and the gas and water pumping plant increased.

In the following years the demand for the products of the laboratory rapidly increased, and further accommodation had to be provided for the serum-preparing animals.

Three small out-laboratories for anthrax, blackquarter, and glanders were built and, at a later date, another wing was added to the main building.

A course of instruction in tropical veterinary diseases and in serum therapeutics was commenced for officers of the Army and Civil Veterinary Department. A bungalow for their accommodation was built. Each month a class of about six native veterinary graduates was instructed in the methods of serum injection and in the practical application of serums and vaccines. Quarters were provided for these men.

In 1907-8 Dr. Lingard retired, and Capt. Holmes was appointed Imperial Bacteriologist.

An Institute and tennis grounds for the recreation of the members of the staff were constructed, and a dispensary and hospital in charge of a sub-assistant surgeon were provided.

The meteorological observatory shed was equipped with extra instruments and converted into a second class departmental observatory.

At the present time the chief buildings in Muktesar are:—(1) Main laboratory buildings; (2) The three out-laboratories; (3) Sterilising house; (4) Centrifuge and serum rooms; (5) Serum filling and bottling house; (6) Packing house and carpenters' shop; (7) Bottle washing room; (8) Two cold storage rooms; (9) Grain and oil godowns; (10) Farm manager's office; (11) Power house and work shop; (12) Gas house; (13) Water pumping house; (14) Small animals' house; (15) Three stables to accommodate 25 horses; (16) Dog kennels; (17) Eleven sheds to accommodate 400 cattle; (18) Two post-mortem houses and incinerator; (19) Five operating sheds; (20) Six out-kraals to accommodate 300 cattle; (21) The institute; (22) The dispensary, hospital and segregation ward; (23) Dharmasala and shops; (24) Post and telegraph office; (25) Visitors' bungalow; (26) Public works department inspection bungalow; (27) School for the education of the children of the native staff.

Residences for the permanent staff which in 1912 consisted of:—*Imperial Bacteriologist*.—Major J. D. E. Holmes. *Assistant Bacteriologist*.—Mr. H. E. Cross.

Physiological Chemist.—Dr. P. Hartley. *Head European Laboratory Assistant.*—Mr. M. Kriebel. *2nd European Laboratory Assistant.*—Mr. D. Keiller. *3rd European Laboratory Assistant.*—Mr. G. P. Goffi. *Electrician.*—Mr. P. W. Crowshaw. *Farm Manager.*—Mr. McGinn. Two Senior and two Junior Veterinary Inspectors, Head Clerk, Accountant, Sub-Assistant Surgeon, Artist and Photographer, 2nd Clerk, Munshi, Despatcher and Meteorological Observer, Assistant Engineman, Storekeeper, Librarian, Farm Overseer, Farm Jamadar, Godown Keeper, 1st, 2nd and 3d Native Laboratory Assistants, Compounder, 10 Dressers, 26 Menials, 10 Laboratory Bearers, 2 Packers and Carpenters and 350 coolies and cattlemen.

Muktesar, locally known as Motesar, is situated at the summit of a hill on the inner Himalayas at an elevation varying from 7,500 to 7,702 feet. It is 23 miles by the bridge road North-East of Naini Tal and 13 miles South-East of Almora. The railway terminus Kathgodam is reached by two direct routes; one passing through Dhari, Champi, and Bhim Tal, 24 miles; the other through Ramgarh to Bhim Tal, 21 miles.

The Laboratory estate comprises 7,000 acres, about half of which is covered with oak forest and chir. The Furka, a tributary of the Kosi runs through the estate. Numerous bridge paths have been made connecting the Central Buildings with the out-Kraals situated at distances of 1 to 2 miles from the Laboratory.

The care of the forest and of the cultivation is in the charge of the Farm Manager assisted by the Farm Overseer, two Jemadars, and some 300 to 400 coolies.

A nursery garden is kept up and about 6000 plantings of Deodars, Chir, Walnuts, etc., are made each year.

The Laboratory main buildings. The main building with its accessory buildings is situated at an elevation of 7,500 feet. The Laboratory is two storied and constructed of stone. The whole building is practically fireproof, the roof being of corrugated iron and the floors of stone slabs. The second story rests on iron supports on which are laid iron sheets, covered with cement on which stone slabs are laid.

All the microscope rooms face north. There are three entrances from the south side to the east, west and new wings.

All the rooms are thoroughly equipped with all necessary apparatus and provided with water, gas, and electric light. The walls are lined with glazed tiles, and the floors laid with marble slabs.

The library contains some 3,500 volumes and subscribes to 101 scientific journals.

Out-Laboratories. Each of these consists of two large rooms; one contains incubators and sterilisers, the other is equipped as a microscopic room. All the work connected with serum preparation and investigation in Anthrax, Black-quarter, and Mallein, is carried out in their respective out-laboratories. This prevents the risk of the infection by sporulating organisms and of Glanders being brought into the main laboratory, and tends to the general safety.

The Dispensary and Hospital. The building, situated near the Post Office and Bazaar (native shops) has one ward with eight beds for menial establishment: one with two beds for the subordinate staff. (Attached to each of these wards is a kitchen, bath room, store room, yard, and latrine). An operating room: a dispensing room and store room: a segregation ward for infectious diseases is situated at a distance of about 200 yards from the hospital. It contains four beds and an attendant's room. The quarters of the sub-assistant surgeon are attached to the hospital. The compounder's quarters are separate at a short distance from the main building.

The average number of patients treated daily at the dispensary is 25.

Visitors' Bungalow. The visitors' bungalow was built for the accommodation of officers on training and

officers visiting the laboratory. There are four bedrooms with dressing and bathrooms attached, and a large dining room, all fully furnished. A Khansama is kept at the bungalow and meals are supplied at the usual rates.

The Inspection Bungalow. This bungalow was formerly connected with a Government orchard which is part of the Laboratory estate. It now belongs to the Public Works Department and is used as a residence for the officers of that department when visiting Muktesar on duty.

The Branch Laboratory. The laboratory is situated about four miles outside Bareilly Cantonment on the Budaun road. It was built in 1901 for the purpose of carrying on certain investigations during the winter months of each year. The main building contains two offices, two microscope rooms and a sterilising room. There are five cattle sheds to accommodate about 100 animals, two operating sheds, a post-mortem house and incinerator and a store godown, and quarters for a European Laboratory Assistant and for four other clerks. The Laboratory stands in 30 acres of ground.

Chapter III.—Research work and Publications which occupies over five pages, summarises what has been done in these directions, and indicates the Government and other publications in which the reports have appeared.

THE PRACTICAL APPLICATION OF SERUMS AND VACCINES IN COMBATING INFECTIVE DISEASES OF STOCK IN INDIA

The problem of dealing with infective diseases of animals in India presents many difficulties peculiar to local conditions. In a country like India where measures of treatment, segregation, or of police restriction cannot be imposed in the suppression of epidemics of stock, owing to the prejudices and feelings of the majority of native farmers, and also where the areas to be dealt with are so vast and frequently so difficult, no direct attempt at the total eradication of any endemic infective disease is feasible. Even if it were possible to eradicate a disease from any one province or from the whole of British territory in India it would be impossible to prevent its re-introduction through the frontier line. Consequently, the operations of the Government Veterinary Department are directed towards the suppression of outbreaks of epizootics as they occur, the treatment and protection of individuals being of less consideration and any systematic attempt at total eradication not being attempted.

Even this task of controlling the spread of infection is one of very considerable difficulty, as full and effective measures cannot be put into operation. The Veterinary Service has to rely solely on the aid of serums and vaccines and these can be used only when the owners consent to have their cattle treated. Measures of segregation and disinfection cannot be imposed without the sanction of each individual owner. The scarcity of fuel adds to the difficulty of disposal of infected carcasses.

Glanders, Surra, Lymphangitis Epizootica and Dourine are the only diseases for the control of which legislative measures are in force. At the present time, after practical demonstrations of the benefits of serum injection in outbreaks of Rinderpest, during the past ten years, the use of serum is accepted without opposition in most districts of India. On the part of the Veterinary Service every care has to be exercised that whatever measures are adopted in dealing with an outbreak they shall be free from any danger to the lives of the animals treated, and shall in no way interfere with their work. Serum-therapy has proved to be the safest and most efficient method of operation under such conditions.

Dead vaccines can also be used with safety and confer an immunity of somewhat longer duration than the

serum alone process, but they are less suitable in face of actual outbreak, as the protection induced by them is not established for some days after the injection.

Vaccination by means of living but attenuated organisms is not practised, except against Black-quarter, as a prophylaxis in districts where the disease is seasonally prevalent. The danger of accidents following inoculations, of losses among treated cattle, and of establishing fresh foci of infection precludes this method from general practical use.

For the same reason the method of sero-vaccination which consists of a combined injection of a virus and its anti-serum is not of general practical application in this country.

Rinderpest. In India Rinderpest is the most prevalent and destructive disease of stock. The use of serum has proved of very great value in protecting cattle and in controlling the spread of infection. The immunity following an injection of serum lasts for two or three weeks only, but it has been found both by experiments and in practice that animals which receive an injection of serum and are exposed to actual infection within the period of protection, may contract a mild form of the disease which gives an active immunity of long duration.

Serum not only preserves the lives of the animals treated but it checks the spread of the disease, as the immunised animals are no longer a medium for the existence and transmission of the infection.

Indirectly the use of serum combined with actual exposure to infection by producing an active immunity and thereby increasing the number of immune cattle, is a factor which operates towards the ultimate eradication of the disease. In infective disease of a more sporadic nature, serum operations are less effective and more difficult to apply.

Anthrax. An outbreak of Anthrax spreading among and causing a number of losses among animals in one locality is not of frequent occurrence. In some districts the disease is prevalent during and immediately after the rains. Its appearance in any one locality is intermittent and seldom causes more than a few deaths at each visitation.

Serum affords a temporary protection to individual animals. By two or more injections it is possible to tide the animals over the time during which the disease is prevalent. Where Anthrax appears in an epidemic form among one or more herds or in a stable, the application of serum injections not only affords an immediate protection to all the animals exposed to infection, but it stops short the spread of the disease and gives facilities for carrying out thorough measures of disinfection.

Vaccination against Anthrax cannot be recommended for practice in India. The action of the vaccine is irregular and not infrequently a considerable percentage of deaths result after vaccination, which form fresh foci of infection.

□ Sero-vaccination, which is a combined injection of serum and virus at the same time but on different parts of the body, is attended with less risk than the vaccine and confers a durable immunity. Among a valuable herd of cattle or in a stable where the owner is willing to accept the risk of a few losses, the sero-vaccination method is the most satisfactory method of protecting against anthrax.

Hæmorrhagic Septicæmia. After Rinderpest, Hæmorrhagic Septicæmia accounts for the largest losses among cattle in India. This disease is prevalent throughout the country. Outbreaks generally occur sporadically during and after the rains and seldom assume an epidemic form. In dealing with this disease, serum is used, as in anthrax, to protect animals exposed to infection during the period the disease is prevalent, or until, where possible, measures of disinfection can be carried out and the source of infection removed.

A dead vaccine has been prepared which gives an immunity of about six weeks. This vaccine is of considerable advantage in localities where the disease is seasonally prevalent. Cattle are inoculated and put in a state of protection before the disease has actually appeared among them.

Sero-vaccination is also a safe and efficient method of immunising animals against this disease, but ought not to be practised in areas free from infection and only when owners do not object if a small percentage of loss follows inoculation.

Black-quarter. Charbon symptomatique or Black-quarter is a disease which is more or less confined to certain areas and appears seasonally during the rains, and seldom assumes epidemic form. A serum for this disease has been prepared, but it is not of much practical value as the protection afforded is only of about ten days duration.

Vaccination has proved to be the most satisfactory method of combating this disease. The vaccine is composed of the living but attenuated organisms and confers an active immunity which persists for several months. Vaccination is carried out each year among animals in infected districts immediately before the season when the disease makes its appearance. The vaccine is so attenuated that few accidents are traceable to its use.

Strangles. As India is not to any great extent a horse breeding country, strangles require very little intervention except in the Government Remount Depot. A dead vaccine and a serum has been prepared and has been used with advantage among remounts.

Glanders. Glanders is very prevalent throughout India, and mallein is in all suspected cases used for diagnostic purposes.

Tuberculosis. Tuberculosis is not a common disease of stock in India. Tuberculin is consequently not much in demand.

Tetanus. Tetanus is widespread in the soil, but cases of tetanus in horses are not very numerous and the tetanus antitoxin is only occasionally required.

Surra. A successful method of curing surra in horses by means of arsenic and atoxyl has been worked out, and instructions regarding the doses and methods of administration of arsenic and atoxyl are issued from the laboratory.

The following points should be borne in mind :—

(1) No serum can confer anything more than a temporary protection against its specific disease. The periods for which serums protect vary in different diseases from two weeks to not more than six weeks.

(2) In using serum the object aimed at is not so much the preservation of each animal treated, as the control of the epidemic and the prevention of the spread of the infection.

(3) No serum or vaccine will protect every animal treated. Many individuals cannot be immunised either on account of an intense susceptibility, or more frequently from the existence of an intercurrent disease.

(4) The duration of the immunity afforded by a serum or vaccine is not in every instance exactly the same. Some animals are protected for a shorter time, others for a period longer than the average.

(5) Serum gives an immediate protection. With vaccines the immunity is not established for a few days after the injection. Dead vaccines give a protection for a somewhat longer period than serums. Living vaccines produce an active immunity of long duration (several months to one or two years) but their use is attended with the risk of a small percentage of deaths due to vaccination.

Chapter V. enumerates the serum and vaccines prepared at Muktesar, some details of their preparation and methods of issue, with copies of "instruction" issued with them. It occupies 23 pages. We have

space here only for one section—Anti-Rinderpest Serum. "This serum was first prepared by Kolle and Turner in South Africa, and used there with success in 1898.

The following year it was manufactured at Muktesar and its use introduced into India.

The serum is prepared from cattle which have been first immunised against rinderpest and further treated with one or more injections of virus. The virus is obtained from animals suffering from the disease. Lingard by a large series of experiments extending over three years, worked out an economical method of preparing a serum of high potency.

In the early operations with serum much opposition was experienced from the owners of cattle, who regarded the interference with suspicion and refused to allow their animals to be treated. After a few years, the successful results overcame this opposition, and the demand for this serum increased at such a pace that from 1907 to 1910, the maximum output (of about 500,000 doses) was insufficient to meet the orders for serum. In 1910 improved methods of preparing this serum were discovered, by the application of which in the following year over 1,000,000 doses were manufactured, at the same cost as was previously necessary for half this amount.

The serum was, up to 1910, issued free of cost to the Civil Veterinary Department in each Province, but in this year a charge of two annas per dose was imposed, and surplus serum not required by the Veterinary Department was made available for purchase by Native States and other Governments, etc.

Each brew of serum which consists of from 50,000 to 100,000 doses is carefully tested, and the protective dose for susceptible cattle ascertained per 600 lbs. body weight.

All brews which show potency sufficient to protect, at a dose of 90 c.c., a susceptible animal of 600 lbs. body weight, are issued."

The description concludes with 33 pages of reproductions of photographs—portraits of Dr. Lingard and Major Holmes, and of Senr. Vety. Inspector Khan Sahib Wazir Mohamed, Head Clerk Pundit Krishna Nand, Accountant Rai Sahib Pundit Nitya Nand, Artist and Photographer Babu Duni Chand, 2nd Clerk Pundit Ram Datt—of the main buildings (two of which we reproduce) of Bacteriologists' and Chemists' workrooms, other workrooms and offices, and of several of the many bungalows, out laboratories, sheds, and other addenda which go to make up one of the best equipped and most useful laboratories we possess.

ANNUAL REPORT (1912-13) OF THE BENGAL VETERINARY COLLEGE, INCLUDING THE REPORTS OF THE EPIZOOTIC DISEASES DEPARTMENT IN CALCUTTA AND ITS VICINITY AND THE RAYMOND RESEARCH LABORATORY.

[ABSTRACT].

Major A. Smith, the Principal was posted to Bengal on the 15th April and took over formal charge of the Bengal Veterinary College on the afternoon of the 4th June. He also held, in addition to his own duties, the charge of the Civil Veterinary Department, Bengal, from 22nd April to 27th October inclusive.

Veterinary Instruction. The number of students on the College rolls at the beginning of the session was 107, 99 at the close of the session. They consisted of 72 Hindus, 22 Muhammadans, 3 Christians, and 2 Budhists.

The following table shows the results of the examinations :—

	Opening.	Close.	Examined.	Passed.
Class A	36	29	29	22
" B	30	30	29	23
" C	41	40	40	27
Total	107	99	98	72

Five men from the Supplies and Transport Department were trained in nursing and dressing, and two men from Monghyr, and one from Assam were trained in horse shoeing.

Treatment of Disease. During the year under report 2,428 patients were treated, showing an increase of 244, and 1,892 operations were performed, against 1,881 of last year. The number of cruelty to animal cases sent by the trying Magistrates was 245 which in comparison with 14,932 prosecutions appears very small.

A new hospital for dogs has been erected and certain low portions of the compound of the Bengal Veterinary College have been raised. A new building for the office and quarters for the Principal are highly necessary.

The very willing assistance of the staff has been much appreciated.

EPIZOOTIC DISEASES DEPARTMENT.

The total number of horses admitted into the Contagious Diseases Hospital was 29 including the 2 animals that were under observation at the close of the previous year. Of these, 5 were destroyed for glanders, 1 died from glanders, 1 died from organic complaint, 21 were discharged as free from glanders, and 1 remained under observation.

Rinderpest was prevalent in Calcutta and its Suburbs 1,698 cattle were inoculated with anti-rinderpest serum. A sum of Rs. 522-14 was realised on account of the serum used and credited to Government.

Foot-and-mouth disease also appeared in several parts of the glanders area and also among the bullocks of the Government Transport Lines at Dum Dum and Hastings.

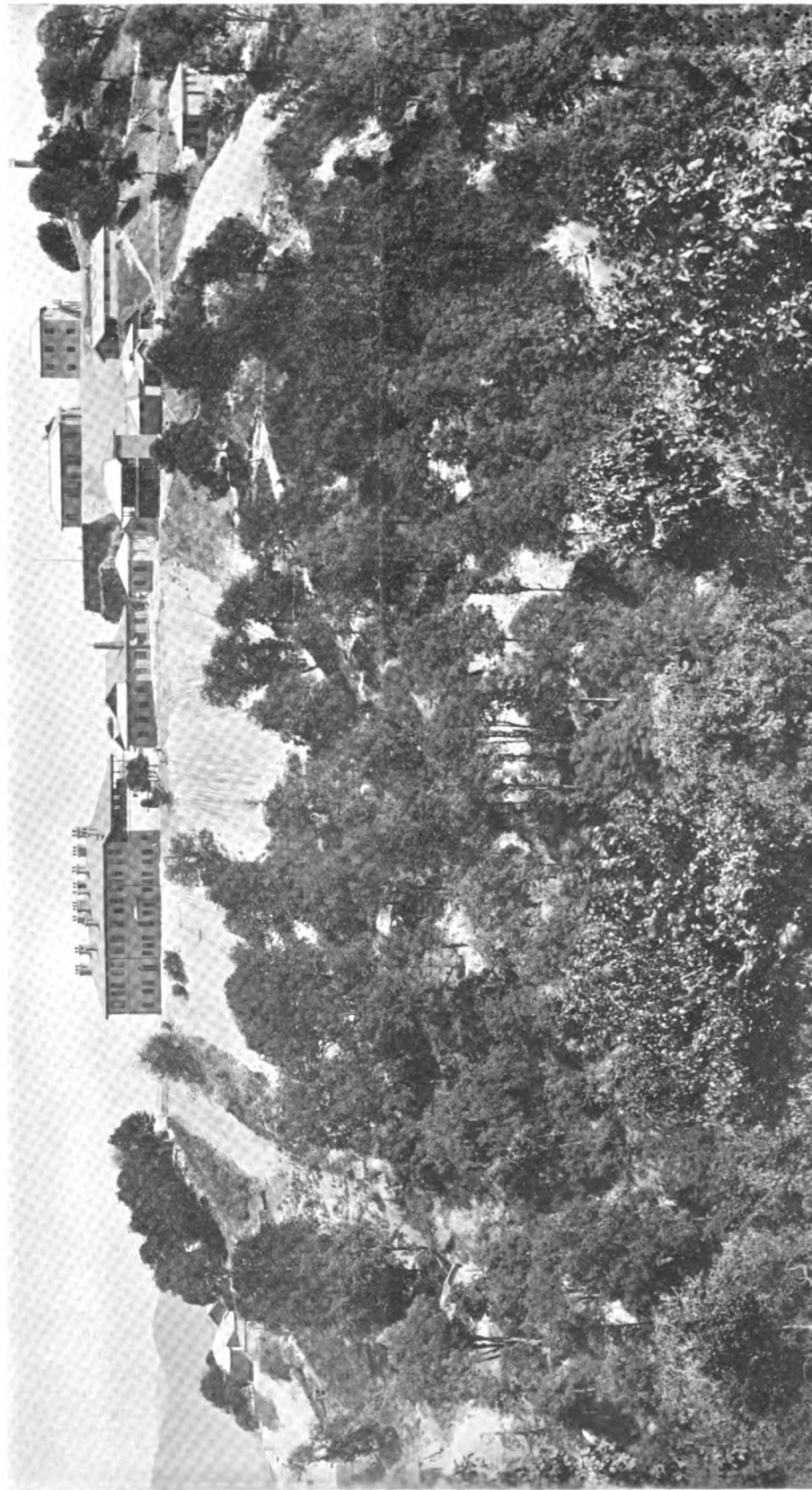
Eighty-four cases of suspected rabies from Calcutta and elsewhere were examined, and sixty of them proved to be suffering from the disease.

RAYMOND RESEARCH LABORATORY.

During the year under report some up-to-date electrical apparatus for special experiments was purchased.

Pathological specimens, smears, dabs, etc., were received from the Civil Veterinary Departments of Bengal, Bihar-Orissa, and Assam, Army Remount Department and other sources which on examination showed among others the causative organisms of anthrax, blackquarter, hemorrhagic septicemia, tuberculosis, piroplasmiasis, trypanosomiasis, filariasis, strangles, rabies, parasitic mange, etc. Autopsies were made on carcasses received from Calcutta and Bengal Police, Zoological Garden, Calcutta Corporation, General Post Office and private persons. The lesions were demonstrated to the senior students. The senior assistant, Mr. S. N. Mitra, had to give expert evidence in many cases. In the course of post-mortem examinations a collection of some interesting parasites has been made which will be sent to Europe shortly for identification.

The British Commission on Foot-and-Mouth Disease and Colonel Sutherland, I.M.S., the serologist, were supplied with a large amount of material for their work. At the request of Dr. Percival Mackie, I.M.S., who has been working under the Indian Research Fund on kala-azar, a large number of spleen smears of dogs were examined with a view to determine their infection by leishmaniasis.



THE IMPERIAL BACTERIOLOGICAL LABORATORY, MUKTESAR, INDIA.
MAIN BUILDING, FROM THE NORTH.

TO VINU
ABSORBIAO

I am glad to report that a cure was effected in a naturally contracted case of equine surra by following the method suggested by the Imperial Bacteriologist. This is the first case of cure reported in Bengal.

CIVIL VETERINARY DEPARTMENT, BENGAL, 1912-13.

[ABSTRACT.]

The necessary changes in consequence of the reconstitution of the territories, though declared in the previous year, practically took effect in the year under report, the completion of which took some time to attain a definite shape so to speak.

I held charge of this department from 28th October, 1912, when on my arrival from Madras I took over from Major A. Smith, F.R.C.V.S., Principal, Bengal Veterinary College. During the period of five months in which I have held charge I was on tour for 61 days, travelled 5,733 miles by rail, 907 by steamer, and 279 by road; inspected 16 veterinary assistants, Kalimpong Homes Farm, and Agriculture Farm, Dacca; provisionally selected seven sites for Dacca new veterinary hospital; and attended two outbreaks of glanders at Burdwan and Barisal.

Contagious Diseases. The numbers of deaths reported of equines and bovines were 373 and 7,637 respectively against 248 and 8,522 of the previous year. The decrease noticed is due, partly to decrease in disease this year, and partly to the correct records kept by the thana officers and their more prompt notification to this department, and consequent earlier attendance of veterinary assistants, though in the latter there is still much to be desired.

In some cases it came to my notice that the police failed to report at all, and in others the disease had subsided before this department got the report.

There were 260 cases of deaths from glanders. Of these, 240 cases occurred at the Sodepur-Pinjrappole alone, and the remainder in six other districts. To avoid difficulties in future, steps are being taken to extend the provisions of the Glanders and Farcy Act throughout the newly constituted Presidency, as was done in the case of the old province of Bengal. Rupees 282 was awarded as compensation for destruction of horses under the Act.

Only ten cases of deaths are reported from anthrax against two of the previous year. At Mymensingh town only, it took something like an epidemic form, causing seven deaths among equines and six among bovines. The diagnosis was confirmed by bacteriological examination, and prompt preventive inoculation was performed, to check the spread of the disease.

There was only one death under the head of surra and dourine. There were 75 deaths from other diseases at the Sodepur-Pinjrappole and 20 at Mymensingh, but no details are available.

The most common contagious diseases in cattle are rinderpest, foot-and-mouth, hæmorrhagic septicæmia, blackquarter and anthrax, and the total number of deaths reported from all these was 7,637 against 8,522 of the previous year.

The decrease noticed is due apparently to the disease being less prevalent in some districts, *i.e.* Mymensingh, Chittagong, Rangpur, and Noakhali.

As usual, foot-and-mouth disease caused a very few deaths, the total number being 433 against 497 of the previous year.

Hæmorrhagic septicæmia broke out rather badly in the districts of Faridpur, Khulna, and Mymensingh, where 146, 348 and 202 animals were reported to have succumbed to it.

Preventive Inoculation. One hundred and forty-six outbreaks of rinderpest, 23 of hæmorrhagic septicæmia,

and three of anthrax at which inoculation could be undertaken were reported, and the total number of cattle inoculated was 21,705, *viz.*, rinderpest 19,113, hæmorrhagic septicæmia 2,407, anthrax 185.

The death-rate among the inoculated was practically nothing, being 46 in all.

In some districts the villages are still opposed to inoculation, and the department has considerable trouble in overcoming their prejudices. In some cases the co-operation of even the literate classes is also unobtainable. It is hoped that every one will take interest in these matters and help the department by reporting outbreaks whenever they occur. Co-operation of the officers of other departments of Government, such as the Co-operative Credit Society, Settlement, Forest and Excise, who are generally required to tour in the villages, is also necessary to deal with outbreaks. They should report to this department the existence of cattle diseases, and impress on the raiyats the benefit of inoculation.

Under the recent orders of Government Rs. 5,251-12 was paid to the Imperial Bacteriologist, Muktesar, on account of the cost of serum supplied to this province during the year. Of this, Rs. 876-12 was recovered from the District Boards in West Bengal, the cost of serum used in East Bengal districts being borne entirely by Government. It is proposed that Government should bear the expense for the whole of the new province.

Veterinary Assistants. During the year there were 37 itinerating veterinary assistants working in the province, and 11 stationary assistants placed in charge of dispensaries who made tours in the districts either at fixed periods or at the time of outbreaks. They visited 10,409 villages and treated 52,705 patients against 8,055 and 52,403 patients respectively of the previous year.

Hospitals and Dispensaries. The number of working hospitals and dispensaries during the year was 18. The dispensaries at Sodepur-Pinjrappole, Howrah and Cooch Behar are managed privately, and the others by local bodies. The total number of patients treated at the dispensaries was 22,106 against 17,289 of the previous year. Of these 4,921 were in and 17,185 out-patients.

BREEDING OPERATION.

The number of stud bulls at present serving in the various districts of the province is 37 the property of the Government, and 26 the property of Local bodies. These bulls are mostly kept by the local bodies at the headquarters station for the use of the town people generally, and by the Jail authorities for the jail cattle only. They are too few in number to be of any appreciable benefit to the public. Applications were received during the year for bulls, but could not be complied with for want of suitable animals.

No part of the province as now constituted is suitable for breeding purposes. The raiyats show very little interest in the selection of bulls, with the result that immature, debilitated and badly shaped animals are generally mated, and that a very large amount of in-breeding takes place.

In spite of our determined and continued efforts, practically very little progress in this direction has been effected. For some years Brahmini bulls from Bihar were supplied. But this practice of depriving certain districts of their good bulls, was not a commendable one and was objected to by the people. In districts in which bulls are stationed the inhabitants make very little use of them, and even when they do so, fail to benefit through ignorance, half-starving the cow and calf. Feeding alone will improve the local cattle considerably, but this point is difficult to drive home, as it

necessitates extra expenditure on the part of the owner with no appreciable result to be seen for a considerable time. The rise of price of agricultural stock is also responsible for a certain amount of deterioration, because people, instead of keeping good calves for bulls, castrate them.

To remedy these, and to really improve the breed, a dairy and breeding farm is being started experimentally in connection with the agricultural farm at Rangpur, and, if it proves a success, it is hoped the plan will be adopted in connection with other agricultural farms.

Horse and pony stallion. There was no horse or pony stallion in the province.

Subordinate Establishment. There were 5 Inspectors and 62 Veterinary assistants at the close of the year against 5 and 59 respectively of the previous year.

Staff Veterinary Assistants. Of the four Staff Veterinary Assistants sanctioned for the province, the services of one were placed under the disposal of the Director of Agriculture, Bengal, in connection with the cattle survey operation. Three only were therefore actually employed by this department. All these men have on the whole worked fairly well and have justified their appointments. I consider staff veterinary assistant a most useful section of the department. It acts as a training and sorting ground for possible inspectors. They are employed on various important duties, especially attending and helping veterinary assistants and inspectors with outbreaks of contagious diseases.

Reserve Veterinary Assistants. There were seven leave reserve originally sanctioned for Bengal. Of these, five were taken to Bihar on the reconstitution of the provinces, leaving two only for the two divisions of West Bengal, and one was received from East Bengal and Assam. These three men were, however, found to be insufficient and disproportionate to the strength of the subordinate staff. Sanction has therefore been obtained during the current year for the appointment of three more men under this head. The work of all the reserve men employed during the year was satisfactory.

Veterinary Assistants. Of the 55 assistants employed, 18 were stationary and 37 itinerant. On the whole the assistants have worked fairly well. I wish they would all take keener interest in their work itself, and that I saw less tendency in some of them to do just enough to escape reprimand.

General remarks. In many districts there is urgent need for the employment of additional veterinary assistants, the number of men already posted being quite inadequate for the amount of work and the large area to be covered. In practically all cases where this is most necessary the district boards have rejected the proposal to post extra men on the ground of lack of funds. There is no scarcity of men, as many more graduates pass out of the Bengal Veterinary College than employment can be found for. Thus it is possible to pick the best men in order of merit and general fitness for the posts vacant.

Cattle poisoning is still a very common practice and the cause of serious loss annually, and it seems practically impossible to detect the culprits. The attention of the district officers has been drawn to this matter.

Breeding and improvement of cattle in this province is particularly bad, and the result of attempts to remedy it most discouraging, owing to the absolute indifference of the owners to the condition of the cattle they have.

The people know literally nothing about breeding, and do not trouble to use the stud bulls where provided, nor feed the cow when often served, nor the calf when born; under such conditions the best cattle would degenerate to the present standard. Better than literature and lectures, perhaps small demonstration farms rearing Bengali cattle will drive home to them the improvement and consequent profit to be made out of

care and feeding of cattle. Until the care of cattle is understood, the purchase and distribution of selected bulls will be productive of little or no result.

P. J. KERR, M.R.C.V.S., I.C.V.D.,
Supt., Civil Vety. Dept., Bengal.

The following notes occur in Resolution—No. 2706 T—R. of the Revenue Department:

In last year's resolution on the work of the Veterinary Department the Governor in Council noticed with satisfaction the excellent results achieved in the Raymond Research Laboratory, and His Excellency is glad to see that steady progress is still being maintained.

The report of the Civil Veterinary Department shows a further considerable decline in the mortality of bovines from contagious diseases. This is attributed to less actual disease and also to better reporting on the part of police officers, whereby the prompt and effective attendance of veterinary assistants was secured. This is satisfactory, but the system of reporting is still far from perfect, and the possibility of improving it has been under the consideration of Government during the year.

The Governor in Council is satisfied that the Director of Agriculture and the officers of the Veterinary Department are giving the vital question of the improvement of cattle breeding the attention it deserves, and His Excellency recognises that progress must inevitably be slow.

The Governor in Council desires to acknowledge his appreciation of the services of Major Smith, the Principal of the College, and of Mr. Kerr, the Superintendent of the Veterinary Department. The opinions expressed by these officers regarding the work of their subordinates have been duly noted.

By order of the Governor in Council,

H. F. SAMMAN,
Offg. Secretary to the Govt. of Bengal.
Darjeeling, 14th Oct., 1913.

Sterilized Milk: Bovine Tuberculosis.

Mr. ROBERT MOND gave an address to a large body of Mid-Cheshire farmers, at Knutsford, on Feb 25th, in the course of which he said:—

"The report of the Inter-Departmental Committee on Physical Deterioration (1904) brought out the fact that the natural food of infants—human milk, was becoming a very scarce and rapidly diminishing commodity. The report continued that in these circumstances it is obvious that the question of the possible alternatives to breast feeding becomes of the greatest importance. They were informed by the highest authorities that modified cows' milk is by far the best.

Two years previous to the appointment of this committee we had started a small temporary hospital with the object of studying the scientific modification of cows' milk so as to provide the individual infant with a food meeting its physiological requirements. Much the best work had been done in this direction by Dr. Rotch, Professor of the Diseases of Children, Harvard University, and we therefore took his work as a starting point.

We had realised the urgent need of a hospital properly equipped for dealing with the treatment of babies suffering from malnutrition, and for the study of the factors involved in nutrition and malnutrition. In September, 1907, we entered into occupation of the Infants Hospital, Vincent Square, which was designed and built to meet the special requirements, and since then we have been able to treat over 15,000 babies. At the same time, under the able direction of Dr. Ralph

Vincent in the Research Laboratory, we have succeeded in largely increasing our knowledge in regard to the chemical and bacteriological changes undergone by milk in the alimentary canal of the infant.

For the last five years the milk for the hospital has been supplied from my own farm. I think it may interest you if I give you a short account of the steps taken to obtain a clean milk for infants.

When I entered in possession of the farm I found two well-built cow-byres, each capable of holding 16 cows, provided with wooden mangers and posts, the tiled roof and resting on hay; rough walls, irregular shaped trusses for holding up the roof and a partly cemented and partly cobbled floor, with no windows or ventilation, except the doors at the ends, and each connected with open yards. They were erected a century ago and were in a good state of repair.

For the production of a reasonably clean article it was essential that the place where the cows were milked should be capable of being kept scrupulously clean, and certainly should not be the place where the cows are housed during the winter months. I therefore decided to cover in the open yard by the cheapest method available, and to use the byres only for feeding and milking. The wood-work of the troughs and posts was replaced by earthenware and sherardized iron. The brick walls were covered with cement. The roof was boarded with match boarding which was coated with a solution of Stockholm tar and turpentine. Windows, ventilation, and a good water supply were provided. As it was found that the cows dragged in straw from the open yards, a cobbled foot scraper, surrounded with semi-circular iron railings, was added, and this prevented the cows from crowding each other when entering the milking shed. When a cow is found to be annoying the others in the open yard she is tied up.

The close relationship between the hospital and the farm enables us to study the effects on the milk supplied to delicate infants of some of the food stuffs given to the cows, and we have found that it is advisable to feed these cows with only from 5 to 10 lbs. of mangels, and that substitutes, like oil cake and brewery grains, must be carefully excluded, as they introduce irritant bodies into the milk, which affect the digestion of the babies. Experiments are still being carried on in this direction.

The milk from each cow is milked into a narrow-top milk-pail with a lid which is sterilised before use. These cans have been carefully adjusted to be all of the same weight, so as to facilitate the weighing of the milk each morning and evening.

The average milk of the morning and evening's milking is daily tested for butter fat, and once a fortnight the milk of each individual cow is tested both in the morning and evening. This enables us to eliminate all those cows which fall short in their total milk production, and we replace any shortage in cows by purchasing heavy milking stock. By this means I was enabled to produce last year about 850 gallons per cow.

As regards the cows themselves, of which I have 30 in milk, I am gradually endeavouring to build up a herd of pedigree dairy shorthorns. My first bull I got from Lord Rothschild's herd at Tring, and I am now using his son from a pedigree cow with Bates strain, and a young bull from the celebrated herd of Mr. Sanday.

Any cow, which for any reason is suspected of being in a bad state of health is removed to one of the isolation wards. These wards were originally oast houses, which are so common in Kent, and they have been altered to meet their present purpose. We find these also suitable for calving.

Before milking, the cows are carefully groomed and the hind quarters and udders are washed in order to prevent stray hairs, dirt and dust falling into the milk.

The whole building, including the roof, is also sprayed. The men wear light overalls and a cap, which are changed and washed twice a week and are sterilised in a steam cupboard before each milking. The men are provided with a changing room (where they put on their white overalls) which is fitted with a hot and cold water supply, so that they can thoroughly clean their hands. They are examined once a week by the doctor so as to ensure that they should have no chapped or sore hands, and that the health of themselves or their family should not be prejudicial to the milk.

The milk is brought to the dairy, which also has cement walls and a match boarded ceiling. The cream separators and the cooling apparatus are so arranged that both ordinary water and brine from the refrigerating plant can be used for chilling the milk. After trying various types of cream separators I have adopted Mey's as the most satisfactory for my purpose.

Opening out of the dairy there is a room constructed of tongued and grooved 2in. timber, in which all vessels, after being properly washed in the dairy, are sterilised under steam pressure, whilst the large valve placed on the top of this chamber, which can be opened from the outside, allows the steam to blow off rapidly, and the vessels inside are left hot and dry.

This chamber I found absolutely essential, as the ordinary cleaning of vessels with hot water, owing to its gradual cooling, fostered the growth of bacilli detrimental to milk as a result of the exposure of these vessels to air.

A small refrigerating plant worked on the carbonic acid principle, supplied by Messrs. West and Benyon, is used for chilling the milk, whilst a Cochrane steam boiler, as used on trawlers, supplies the large volume of high-pressure steam for sterilising purposes.

To facilitate the work of the farm the cooling is done during the afternoon and the milk is stored in a churn, provided with an air wall, which is placed in a refrigerating chamber, so as to be ready to be sent up to the hospital next morning.

To ensure the purity of the milk, samples are sent down to my private laboratory. These samples are taken in sterilised bottles. Directly they are received in the laboratory they are placed in sterilised flasks. These flasks are then placed in the incubator, which is kept at a temperature of 68° F. The most essential point of the incubation is the time that it takes a sample of milk to curdle, and not only to curdle but what is the nature of the curd which has been produced. These are points which are most essential, because many samples may curdle in 48 hours and produce a good curd, whilst others may take 78 hours to produce—and produce what is called a gaseous curd. This we regard as a very bad sample of milk, although it may have taken longer to curdle. By the production of this gaseous curd we at once assume that there was some foreign matter come into the milk through unforeseen circumstances, and on these results obtained we inform the bailliff, and he makes then a minute investigation of the herd after washing and during the time of milking in order to eliminate these defects.

This short description of what has been found necessary to ensure a supply of milk of the highest quality, suitable for delicate infants, ought to make it clear that the necessary alterations and installations are not beyond the means of those of you who obtain the milk of a fair number of cows. In cases where the milk can be delivered within a few hours of milking, say three to four, to the customer, the necessity of cooling is not so great. I have found on referring to the practices of the Copenhagen Milk Supply Company (which is daily supplying some 6000 gallons to the town of Copenhagen, and since its foundation some 24 years ago by Dr. Busck has steadily grown and has adopted practices as

to cooling and feeding similar to those which I have introduced on my farm) that during this period it has succeeded in retailing milk at

10d. per gallon the sealed can,
11½d. " " in bottles for general purposes,
13½d. " " children's milk cooled,
and subsequently

Infant's milk at 16d. per gallon,
besides paying 5% dividend. This proves that with a suitably organised agency the supply of good pure chilled milk is practically attainable.

The score-card for the production of pure milk which has been prepared in the Department of Dairy Industry, College of Agriculture, Cornell University, by Prof. Raymond Pearson, is in extended use in the United States, and I commend this to your attention.

In my opinion, differentiation should be made between milk specially provided for babies and invalids and the ordinary milk of commerce. Where milk is the sole or chief article of consumption it is of the utmost importance that it should be treated with the greatest possible precaution. It is to this type of milk, produced under careful supervision of the board of veterinary and medical advisers, that the term "certified milk" should be applied, and I see no reason why a legitimately higher price should not be charged for this milk, covering the extra expense incurred in its production.

A factor on which I lay the greatest importance is the installation of efficient refrigerating machinery for cooling the milk and keeping it below 40° F. where it is not possible to supply the milk to the customer within a comparatively few hours after milking. At the certified milk farms or at the creameries of the co-operative dairy associations in America, Germany, and Denmark a sufficient stock of natural ice is kept, or a refrigerating plant is installed. Following the valuable suggestion made to me by Prof. Geddes, Edinburgh, I should like to call milk thus treated "chilled milk" to distinguish it from milk which has been insufficiently cooled by ordinary water cooling.

The keeping qualities of milk thus cooled, either at the farm or at a central depot, if it is within easy reach of the farm, are greatly increased, and the fact that milk thus cooled can be stored for several days should balance the inequalities of deliveries and help to pay for the extra expense involved.

Cows' milk as an admirable raw material for the provision of food for babies. You all know that cows' milk changes its composition from the time of calving. These changes are consonant with the requirements of the calf for whose benefit the milk is produced. Similar changes take place in human milk, and the problem of the physician or mother or nurse is how to convert the average cows' milk into that particular type of milk which will best agree with the individual infant. The following table shows the composition of human milk and that of cows' milk:—

	Human	Cow
Fat	4.00	4.00
Milk sugar	7.00	4.50
Whey-proteins	1.00	1.00
Caseinogen	0.50	2.75
Water	87.25	87.00

The excess of curd in cows' milk, and the deficiency of milk sugar are the factors that have to be dealt with. A method was devised in the research laboratory some time ago by Dr. Ralph Vincent which has been extensively used in the out-patient department of the Hospital. It is known as the "fat-whey" method. Milk is treated with Rennet, but all the time the milk is stirred so as to prevent the curd, when it forms, entangling the fat globules within it. The curd is then pressed down to a lump at the bottom of the jug. By this means we have obtained a fluid which contains all the

ingredients of cows' milk except the curd. The "fat-whey" is then heated to 150° F. in order to kill the rennet, and, after it is cooled, a suitable proportion of whole milk is added. The whole milk is not heated at all.

Where you have to deal with very delicate infants, such as those in the hospital, great refinements are required. These are dealt with in the milk laboratory where modifications are provided. For further details I must refer you to Dr. Vincent's "Nutrition of the Infant." By the use of this method the blind fumbling from one inadequate food to another, that so unfortunately prevails to-day, is avoided. Science takes the place of empiricism.

As milk is a very rich food it is not surprising to find that it contains a very large number of bacteria. Some of these reach the milk from the teats; others are introduced by manure, dust, or by water with which the milk may come in contact. For our purpose we can roughly group the bacteria into those which form acid by acting on the milk sugar and those which putrefy the milk by acting on the proteins.

As long as the acid-forming bacteria are active the putrefying bacilli are inert, a fact which has long been made use of in the preservation of boiled foods, such as pickles. All bacteria in milk are destroyed by boiling, but the spores of the putrefactive bacilli are not destroyed. These spores form bacilli again in periods varying from 12 to 24 hours under suitable conditions; but as the acid-forming bacilli do not form spores, they are destroyed and consequently their protective action is lost. The investigations carried out at the Infants Hospital have shown that boiled milk is responsible for the most dangerous forms of infantile diarrhoea.

It is also clear that milk is liable to contamination by specific pathogenic or disease-producing organisms, such as the typhoid and diphtheria bacilli. It appears that the tubercle bacillus is usually not found in milk unless the udder of the cow is tuberculous, and here let me state my conviction that a cow suffering from a diseased udder, whatever the cause of the disease may be, should be absolutely excluded. Her milk should be prohibited as unfit for human consumption. The tuberculin test, however, is a very different thing.

Tubercular infection is, both in cattle and in human beings, extremely common. From a statement in *Le Matin* I learn that at a recent examination in the French Army two-thirds of all the recruits were found to react to the tuberculin test. Pathologists who have had an opportunity of examining thousands of cases find that the number of those who have not contracted the infection at some time of their life is extremely few.

Agricultural statistics have proved that 20 to 25 per cent. of the cattle in the different countries of Europe are reacting at the time of the test. It is only amongst babies that tuberculosis is of rare occurrence, and carefully compiled statistics prove that the number of those contracting the infection steadily increases up to about ten years of age. Tuberculosis is a highly infectious disease, and is chiefly communicable through the breathing organs by the inhalation of tubercular dust. For instance, in the slums of New York they found that three-quarters of all the children in the same flat with a tuberculous patient reacted. Whether bovine tuberculosis is communicable to human beings is a very debatable point. The opportunities of infection are so many and the instances where hundreds of children have for years been fed on milk from tuberculous cows without any marked effect is well known. With a mixed supply the danger of the conveyance of tuberculosis by means of milk must be almost infinitesimal. This has been tacitly acknowledged by all the medical authorities of the world, for none of them advise the boiling of butter.

In connection with the subject, I have attempted within the last two years to study the action of repeated and increased doses of tuberculin on cows which reacted. In two cases where the cows were finally slaughtered the disease was in a very advanced stage, and Mr. Pugh, the veterinary surgeon, considered that the tuberculin had accelerated the progress of the disease. In the rest strikingly beneficial results have been achieved; for the cows are now well, and do not react to the test although they have been frequently tested. But I desire to accumulate further experience before feeling myself justified in drawing definite conclusions from the results obtained. It may interest you to learn that in none of these cows was it possible to find tubercle bacilli in the milk; although in the case of the two cows which were slaughtered there was scarcely an internal organ which was not extensively involved, the udders and their lymphatic glands were perfectly healthy.

In reply to a question Mr. Mond said that in France, out of every 1000, 660 reacted to the tuberculin test, whereas only nine out of every 1000 showed sufficient clinical signs of the disease as to make it worth while to take active steps to segregate them or put them under treatment. In Germany it had been found that of the people in sanatoria 70 per cent. of the cases could be cured. In the case of England the percentage was also a very high one. And he had no doubt that when they got their statistics in a satisfactory manner they would find that the number of cows that reacted to the tuberculin test was very small in relation to those which did not. It might be higher, but he would be surprised if more than five per cent. were suffering from anything which might be decently called tuberculosis. If a cow reacted to the tuberculin test he strongly advised it being watched and put on a strengthened diet so as to fortify it against the disease, and unless emaciation or other unfavourable symptoms supervene, the animal was quite as safe as any they could put their hands on.

Mr. Hailwood asked: Should the milk from an infected animal be sterilised, or put through the refrigerator? Which was the safer?

Mr. Mond said it was impossible for the baby to get a large quantity of the valuable foodstuffs in milk from sterilised milk, and consequently there was bad bone structure and other things, including the condition known as pigeon-chested, undeveloped lungs, and a consequential restriction of the flow of blood; and when the baby, the child, or the grown up walked down the street and received into the lungs a nice piece of tuberculous dust that speedily grew, and then they had the regulation tuberculous patient in the regulation sanatorium under the regulation conditions. The whole thing worked out like clock-work, and consequently his advice was not to sterilise. As evidence of the fact that a tuberculous herd of cattle did not give tuberculosis to those who drank the milk he must refer to the special herd of cattle which provided the richest families in New York with milk, which was drunk in large quantities by the children. When the tuberculin test was applied 45 per cent. of the cattle was found tuberculous and slaughtered. The doctors who had been treating the children formed a committee and carefully examined the hundreds of children who had been having the milk regularly, and of the lot there was only one girl of thirteen who showed signs of tuberculosis, and no one knew where she had got it from.

He would readily admit that if he fed a baby with milk from one or two particular cows, one of which was highly tuberculous, and continually gave the child doses, it might be possible for it to receive the infection. But unless the child had been consistently fed with milk from a cow suffering from tuberculosis of the udder, infection was rare.

In answer to Sir Kenneth Crossley, Mr. Mond said

when he got cows at the dairy show they reacted, but that did not trouble him, and he would have no compunction in sending them to the sale yard.

In reply to Dr. Picton:—He knew of no source in England where he could buy stock which would be eugenically resistant to tuberculosis.

In answer to Mr. Hailwood:—Boiling milk, or even Pasteurising, was responsible for the killing of a large number of babies. Of course they must not give a child cold milk so as to give it a cold, but they could bring it up to the temperature of the human body.

Mr. Speakman: A great many of the things suggested by Mr. Mond could possibly be carried out by the large farmer, but very difficult for the small farmer and the smallholder, and he asked what Mr. Mond suggested to achieve the result.

Mr. Mond suggested co-operation. "In every other country, and in the most outlandish place, the principle of the co-operative system was in practice. In England there were sixteen co-operative credit banks dragging out a most miserable existence. With the co-operative system they could do everything, and without it they could do nothing at all."

Mr. W. Clarkson. They were told to-day that it would be well to have the cows tested every two or three months. When Sir John M'Fadyen was with them he said that if they had their cows tested and found that they were clear of tuberculosis, they would not have a tuberculous cow as long as they lived if they did not introduce one into the stock. He was with Mr. Mond in the opinion that if they had their cows tested tomorrow they would not be sure that they would be free at Christmas.

As to co-operation amongst farmers and smallholders, farmers had to milk twice a day, they had to look after the crops, and had to meet the agents twice a year (Laughter), whether there was co-operation or not. He would like to know how farmers were to manage who got up at five o'clock and had forty cows to milk and to get it to the station, if they had to wash and groom the cows before milking, as suggested by Mr. Mond. Especially when they remembered that Mr. Lloyd George was to introduce a Bill whereby labourers need not commence until seven o'clock. And yet people would want their milk at 7.30.

Mr. J. Sadler would like Mr. Mond to give his opinion as to the milk of a cow which was admittedly tuberculous, but which had not tuberculous udder. Was there any risk or danger either to children or anyone else from the consumption of such milk?

Mr. Mond said that highly tuberculous cows like the two he had killed, and which did not have tuberculous udders, produced perfectly safe milk, but the milk required watching because they did not know when the udder would become tuberculous. Tuberculous udder, except in a few cases, seemed to be the last phase of tuberculosis. As long as the udder was not tuberculous the milk was as good as any other milk.

In response to other questions, Mr. Mond stated that out of the cows which reacted to the tuberculin test there were only about one or two per cent. which really had tuberculosis. The tuberculin reactions did not necessarily mean that the cow was tuberculous.

Mr. Peter Mee inquired if farmers ran the risk of spreading the disease by placing bone manure or bone powder on the land. Mr. Mond said if the bones were boiled there there was no danger as tuberculous bacilli were absolutely destroyed in an excessive temperature.

Mr. Farish asked if it was possible for tuberculosis to be transmitted from the cow to the calf. Mr. Mond urged that tuberculosis was a highly infectious disease and consequently a tuberculous cow was a very great danger to the rest of the stock.

Mr. Burgess asked if a calf could be born with the disease. Mr. Mond said it was unlikely unless there

was present a tuberculous uterus, but a calf might contract the disease in the first three or four hours of life.

The Chairman: Because a cow reacted to the tuberculin test it did not necessarily mean that the cow had the disease. [Mr. Mond: Exactly]. The tuberculin test was not reliable, and always went against the seller.

Horse Failing to Lie in Stall.

In the Perth Sheriff Court, Sheriff Sym has issued his decision in an action by Charles Taylor, coal merchant, Methven, against Alexander Macdonald, Dalquhach, Milnathort, for £15 5s., being loss sustained by the pursuer in respect that on 6th October, 1913, he purchased from the defender at the price of £26 at Macdonald, Fraser and Co's. sale, Perth, a brown horse, seven years old, warranted in all farm work, and free from vice. The said horse, it was averred, was disconform to the warranty and the conditions of sale in respect that it was affected in its wind and failed to lie down in the stall. The horse was sold by consent of both parties at Perth on the 7th November, and realised £13.

The Sheriff in granting absolvitor, with expenses, in favour of the defender, states: The horse which is the subject of this case was sold under this warranty, namely, "Warranted in all farm work and free from vice," and it must be taken along with this fact that the conditions of sale provide "Unless a special warranty is given as to soundness, buyers will be held as satisfying themselves in all respects as to soundness in lithe and limb. This, however, shall not be held as applying to any radical defect in constitution or wind which may not be visible, but which unfits the animals for the purpose for which it is sold." The buyer states that the horse was not according to this warranty in respect, first, that he had a vice. The alleged vice is that he did not lie down in his stable at night, and it is maintained that if a horse bought at this auction does not lie down during the three days which the buyer has in which to give notice, he may be rejected as having a vice. It is often the case that if a horse is of a nervous character, or suffers from any slight illness such as cold, he may not lie down at first in a new place. My view as to this fault of not lying down is just what is expressed in *Elephant on Horses*, on page 96 of the 4th edition. "It occasionally happens that a horse will seldom or never lie down in the stable, but sometimes continues in apparent good health and fitness, and works well; but generally his legs swell, or he becomes fatigued sooner than other horses. It is a bad habit, and one decidedly injurious to his health, and so tending to impair his usefulness. It is a vice." It is very difficult to apply this to a three days' warranty. I think the truth about this horse is that he does lie down, but that for a time about the time of the sale he did not lie down in his new surroundings when he had a cold and was put to a kind of work which involved a great deal of strain. The chief difficulty I have had on this point is that after he was sent to the mart of Macdonald and Fraser he did not lie down for some time. On the whole I cannot affirm that he can be rejected for a vice, and I notice that there is no evidence at all that he suffers in appearance or health from not lying down for a time. The other matter refers to the horse's wind. I think if he had been warranted sound that I could not have said that he was a sound horse at the time of sale because there was a temporary unsoundness at all events from cold. He ought to have been returned. That, however, is not the question. It is stated he suffered from a radical defect in wind, not visible, but unfitting him for the purpose for which he was sold. I do not doubt that his wind was affected at the time he

was examined by Mr. Reynard and a man from Macdonald and Fraser, but I attribute that to the cold which the pursuer's man says that he had somewhat severely when in the pursuer's stable. He is not a roarer, and I scarcely see how that comes into the case. If there be some affection of wind which could not be readily observed at the time of sale, I think it must be very slight, for there is much evidence entirely favourable in his health in all respects. I cannot affirm that this horse does not come up to the warranty which I have quoted. In this view it becomes unnecessary to consider the defence that this horse was retained by the pursuer and worked after he had been definitely rejected. Pursuer's agent explained his summons on this head, and I assume that he did so successfully but give no opinion upon it. The first day's ploughing work that the horse did for the pursuer was certainly after he had rejected him, and I think his conduct in this respect was not prudent, but I do not require to decide on this view of the case. On the pursuer's side the case seemed to me quite honest, and his statement of his fault to the horse quite moderately put, but it is a horse which I think might be sold again with the warranty which he has, unless some change has passed upon him since.—N.B.A.

Meat Inspection.

For years past there has been widespread dissatisfaction with the methods of inspection of meat. It has been frequently complained that many of the inspectors have not the necessary qualifications and experience, that different standards are applied by the inspectors under the different local authorities, and that frequently meat which should be condemned is allowed to be sold, while much meat is condemned which, if properly cooked, is quite wholesome. In the result producers and consumers alike sustain loss. The Scottish Chamber of Agriculture and other agricultural bodies have repeatedly urged that the Local Government Board should take steps to improve matters, and especially that they should insist on a proper and more or less uniform system of inspection by competent officials. Though tardily, the Local Government Board are showing signs of awakening to the requirements of the matter. The first symptom of this was the recent appointment of Dr. Leighton as a Veterinary Medical Inspector to their staff, followed by their instruction to him to "conduct a full inquiry into the question of establishing a uniform system of standard of meat inspection for Scotland, and to present a report thereon." They have now invited the Scottish Chamber and other bodies to submit their views on the question, which we learn is likely to be done.

The Association of Veterinary Officers of Health have, however, indicated that it would be more satisfactory that a Commission consisting of Dr. Leighton, as representing the Local Government Board and the medical profession, a representative of the consumer, the butcher, the stockowner, and the veterinary profession should be appointed to make the proposed inquiry. It is more likely, however, that these separate interests will be invited to submit evidence.—*Scotsman*.

The Board of Control of Toronto announce that a plebiscite may be taken upon the question: "Are you in favour of the City engaging in the dead meat trade to supply retailers, and of raising 200,000 by an issue of debentures to carry on this business?" If the project should be favoured by the people, it is understood that the city will kill live stock at the new civic abattoir, and endeavour to compete with the private companies who now supply retailers.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.		Out-breaks	Slaughtered.*
	(a)		(a)		(b)		(b)		(b)	(a)	
U.K. BRITAIN.											
Week ended Feb. 28	18	18	4	27	2	6	63	100	14	64	729
Corresponding week in	1913 ...	16	17		4	15	59	132	2	35	341
	1912 ...	23	23		7	14	94	190	8	49	545
	1911 ...	21	23		3	9			16	34	299
Total for 9 weeks, 1914	...	167	177	5	31	20	46	748	1426	116	487
Corresponding period in	1913 ...	119	133		31	100	748	1636	91	302	3477
	1912 ...	229	257		30	60	1204	2902	122	532	6856
	1911 ...	199	225		42	164			250	307	3269

(a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked: [Durham 2, London 3, Board of Agriculture and Fisheries, March 3, 1914 Lanark 1.

IRELAND. Week ended Feb. 28		...	...	...	...	...	...	Outbreaks 2	18	5	15
Corresponding Week in {	1913 ...	...	...	...	...	...	...	1	6	1	18
	1912 ...	...	...	...	...	...	...	3	9	6	22
	1911 ...	...	...	...	...	...	...	1	10	3	22
Total for 9 weeks, 1914		...	...	2	28	...	...	25	218	34	224
Corresponding period in {	1913 ...	...	...	...	...	...	...	64	167	35	179
	1912 ...	1	1	...	...	...	...	23	167	27	214
	1911 ...	3	3	...	...	...	...	22	169	26	481

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, March 2, 1914
 Note.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

Plant Diseases—National Inspectors.

Speaking at the annual dinner of the Kent Farmers' Union at Maidstone, on Saturday night, 14th inst., Sir Sydney Olivier, Permanent Secretary of the Board of Agriculture, made a definite statement as to the policy the Board had decided to pursue in future under the Diseases of Plants and Pests Act. He said the system of having merely county inspectors was not satisfactory.

It was proposed to strengthen the Board's inspectorate and deal with plant diseases in the same way as they dealt with diseases of animals. Probably twenty or thirty additional inspectors would be appointed in the course of the next year to cope with and stamp out outbreaks of plant disease wherever they might occur. This would be done without expense to the counties. —*Daily Telegraph.*

Medical Research under Insurance Act.

A Medical Research Committee to administer the funds made available under the National Insurance Act for the purposes of research has been constituted. Amongst the first members of the new body we note the name of Dr. William Bulloch, Bacteriologist to the London Hospital, and Professor of Bacteriology in the University of London.

An Advisory Council of Research is also constituted which includes the names of Dr. Sheridan Delépine, Sir John M'Fadyean, Sir Stewart Stockman, and Dr. G. Sims Woodhead.

It is laid down that the Medical Research Committee shall from time to time prepare schemes for research,

including, if they think fit, schemes for inquiries and the collection and publication of information and statistics, and shall submit such schemes to the Chairman of the National Health Insurance Joint Committee for his approval. Before approving any scheme so submitted to him, the Chairman of the Joint Committee will consult the Advisory Council for Research.

Members of the Research Committee are to hold office for three years.

Foot-and-Mouth Disease.

The Irish Department of Agriculture on Sunday last issued a notice stating that three outbreaks of foot-and-mouth disease have been discovered in the County Cork—at Ballynacourty, near Kinsale, at Douglas, and at Ballynacrusa, near Queenstown. The Department has made the usual orders regarding the movements of stock in these districts.

The Cattle Market at Liverpool was closed on Monday owing to the outbreak of foot-and-mouth disease in two districts in that city. In an Everton shippin five out of ten animals were affected, while a considerable number of a herd of upwards of twenty cows in a Walton shippin were also discovered to be suffering.

Two suspected cases of foot-and-mouth disease are reported from Toghher and Ballygarvan, both in Cork rural district, and quite near that city. All the infected areas are now patrolled by police. Owing to the closing down order the food supply of the city is seriously

threatened, and it was estimated that the quantity of meat at the disposal of the butchers would not last over Wednesday.

The existence of foot-and-mouth disease was confirmed on Wednesday, 4th inst., on premises near Conway, Carnarvonshire.

R.V.C., London v. R.V.C., Dublin.

This annual Rugby match between the colleges was played at Ballsbridge, Dublin, on Saturday, Feb. 21. After a close game London won by three points to nil—a penalty goal kicked by Bennett in the first half. Considerable interest was shown in this match, as the colleges were playing for a cup presented by Professor and Mrs. Wooldridge of London. Last year (the first of the competition) the match resulted in a draw, so that the London College is the first to possess the cup. The match was refereed by Mr. Louis Magee the famous Irish International. On Saturday evening the teams were entertained at a dinner at the Gresham Hotel and after that went to the Theatre Royal.

The following played for the respective teams:—

R.V.C. London.—Full-back: L. P. Pugh; Three-quarters: S. C. Bennett, G. Barnett, H. D. Neave, L. Jeffrey; Half-backs: W. Gibson, J. Coleman; Forwards: G. H. Melck (captain), W. A. Macgregor, H. B. Williams, J. Barlow, E. C. Bowes, H. Edwards, E. V. Hunt, D. E. McRae.

R.V.C. Dublin.—Full-back: T. O'Brien (captain); Three-quarters: T. F. Donworth, Morris, Peatt, Doyle; Half-backs: J. Bell, E. M. Elligott; Forwards: L. Hilliard, J. Malone, C. Ryan, Mettam, Fennelly, Cunningham, Barry.

Personal.

GOLDING.—On Feb. 23rd at Old Cross, Hertford, the wife of Walter W. Golding, M.R.C.V.S., of a daughter.

MR. R. J. HICKES, F.R.C.V.S., Market Weighton, Yorkshire, has been appointed a Justice of the Peace for the East Riding of Yorkshire.

Prof. J. PENBERTHY, Newnham; Messrs. F. AULTON, Tutbury; W. J. HATTON, Richmond; R. RIMMER, Kendall; and H. H. TRUMAN, March, acted as Veterinary Inspectors at the 35th Annual Shire Horse Show held recently in London.

Dr. R. T. LEIPER, Helminthologist of the London School of Tropical Medicine and Wandsworth Scholar, has left London for the East, with Surgeon E. L. Atkinson, R.N., and Mr. Cherry-Garrard, both of whom accompanied the Antarctic Expedition. The object of the expedition is to ascertain the mode of spread of trematode diseases of man, especially bilharziasis; investigations will also be made into ankylostomiasis. Dr. Leiper, it will be remembered, contributed a paper at the Carnarvon meeting of the N.V.A. and quite recently an address with lantern demonstration at a meeting of the Central Society.

Prior to the discovery of Australia 130 years ago the British farmer had very little experience with the production of fine wools. In Australia, however, he found a soil and climate more suitable for the Spanish Merino than for the British Mutton breeds to which he had been accustomed in the United Kingdom. He introduced Spanish Merino to the Australian pastures, and by practical breeding he has in the course of a century built up not only the greatest flock of sheep possessed by any one country, but a flock which produces a fleece which tops the wool markets of the world. Australian wool is without equal anywhere.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, Feb. 20.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

A. J. Hines to be Lieut. Dated Jan. 6.

March 3.

SPECIAL RESERVE OF OFFICERS.
ARMY VETERINARY CORPS.

Supplementary to Regular Regiments or Corps.

Lieut. (on probation) D. H. Dimes is confirmed in his rank.

Whitehall, Feb. 19.

ORDER OF THE MEDJIDIEH.

The King has been pleased to give and grant unto Herbert Mason, Esq., M.R.C.V.S., Veterinary Inspector in the Department of Public Health at Cairo:

And unto

Duncan Silvestro Rabagliati, Esq., Veterinary Inspector in the Department of Public Health at Cairo, His Majesty's Royal licence and authority to wear the Insignia of the Fourth Class of the Imperial Ottoman Order of the Medjidieh, which decoration has been conferred on him by His Highness the Khedive of Egypt, authorised by His Imperial Majesty the Sultan of Turkey, in recognition of valuable services rendered by him.

INDIA OFFICE, March 3.

The King has approved of the promotion of the following officers of the Indian Army:—

* * * *

INDIAN CIVIL VETERINARY DEPARTMENT.

Major A. S. Trydell. Dated Jan. 30.

OBITUARY

H. W. LEECH, M.R.C.V.S., Worthing.

Graduated, Lond: May, 1891.

DAVID R. SOWERBY, M.R.C.V.S., Anlaby Road, Hull.

Edin: April, 1871

Mr. Sowerby died on Feb. 26th, from diabetes. Aged 67 years.

GILBERT BONE, V.S., (retired) died on Feb. 15th, at 5 Market Street, Alton, Hants., from cardiac disease with bronchitis, at the age of 76 years.

Mrs. GAMGEE, widow of Professor John Gamgee, M.R.C.V.S., of Edinburgh, died on Thursday, February 19th, in her 90th year at Brook House, North Stoke, Wallingford, Berks. the residence of her nephew, Mr. Harold Hartley, in whose home she had passed the declining years of her life.

She was the daughter of Captain T. Hartley, 23rd Royal Welsh Fusiliers, who served under Wellington during his Irish administration, and afterwards went through the Peninsular War under him. Captain Hartley was severely wounded at Badajoz and was subsequently invalided home. Professor Gamgee was the well-known authority on veterinary matters and cattle plagues. It was largely through his exertions that the great plague, both here and in the United States in the 'seventies, was stamped out. Mrs. Gamgee accompanied him during his travels and had many stories to tell of adventures in the West 40 years ago. She retained her faculties almost to the last.—*The Times*.

PARNELL.—On February 27th, at 15, Cromartie Road, Hornsey Rise, N., Catherine Victoria Parnell, widow of the late Charles Parnell, M.R.C.V.S., aged 83 years.

TWO PRE-ASEPTIC LAPAROTOMIES.

Dear Sir,

I was much interested with Professor Reynolds' lecture at Grantham on Hernia in the Dog, and his description of the antiseptic and aseptic methods of operation with a great number of details which I think will be very difficult to remember at the time. Certainly I think the aseptic method of operation is the best, but how seldom can that be carried out in a country practice.

I will here describe, for the amusement, and I also hope for the benefit of one or more of your numerous readers, how I operated on two cases of scrotal hernia—a Clydesdale colt and Clydesdale foal.

The colt was foaled with scrotal hernia of the near side; this got very large, and I was called in by the owner to try and reduce it. I threw the animal, then a few weeks old, manipulated the part and got the bowel nicely back into the abdomen, then I gathered the loose skin tightly up, put a skewer—not aseptic—through it, and tied a strong piece of string on the upper side of the skewer sufficient to stop circulation in the dependant skin. In about a fortnight the dead skin came off, and the colt looked much better for a little while; but gradually the skin stretched and the hernia was soon as bad as ever, so I tried the same method again, but without success. The owner, a farmer, then became tired of the colt; he did not like to see him although he cost ten guineas to get. He asked me if I would have him as a gift as he was determined to keep him no longer. I said "Certainly," and thanked him for the handsome present. I sent him to my brother's farm. In a short while the hernia became strangulated and the poor animal rolled about in agony all night; I was sent for, as they said the colt had colic. When I saw what was the matter I had the colt thrown and worked the part well with my hands, and got it nicely reduced. I decided then to operate somewhat after the manner of Professor Reynolds. I had mentioned the case to the late Mr. Chivas, of Corbridge, who asked me to let him come whenever I operated upon him, so I wrote to him, and arranged to have it done at once. I took him out to the farm, we threw the colt, Mr. Chivas chloroformed him (not with proper muzzle, for I am speaking now of 25 years ago). I first castrated the colt, then reduced the hernia, scraped the edges where the bowel came through, and was going to suture him up when my friend said, "Hunter, I have never had my hand in a living horse's inside like you have, let me put my hand inside of him." I said, "double up your shirt sleeves and wash your hand and arm in this antiseptic fluid, and you shall." He did so, and after putting his hand well in and over the bowels he said "Now, Hunter, he'll die." "Well," I said, "you are consoling."

I finished the operation, and in a short while he came out of the chloroform and was steadied into his box. My brother went to look at him before he went to bed, and in going round him the colt let out, but fortunately missed my brother, who told me about it next morning when I went to see the colt. I said, "after that Mr. Chivas will be wrong, and he won't die," and sure enough he made a first class recovery, and I sold him to a client 18 months after, for whom he did well.

My next attempt to operate was on the foal. The farmer sent for me in a hurry, saying his foal, five days old, was very ill, so I went at once and saw it was a matter of life or death. I got a little clean warm water and poured a little carbolic acid amongst it, had the foal turned on to his back and held by two men, but gave no anæsthetic. I castrated the foal—he was the youngest I ever did castrate—returned the bowel, and sutured up the inguinal opening, and finished with a stitch or two in the scrotum. The poor thing was lifted on to its legs and made an uneventful recovery. This animal was sold when 2½ years old on Newcastle Cow Hill Fair for £50.

So you see it is not always essential to be aseptic, but I do say come as near to it as you can.—Yours truly,

WM. HUNTER.

Newcastle-upon-Tyne.

A CORRECTION.

On page 561 of last week's issue I am reported as having made a remark, the meaning of which is unintelligible. The remark I did make was, "If veterinary surgeons had more generally joined local associations in the past, then there would have been less need for forming separate veterinary inspectors associations, as work necessary to be done by them could have been done through the local associations."—Yours faithfully,

E. BRAYLEY REYNOLDS.

Royal Veterinary College, Camden Town, N.W.
March 4th.

Veterinary Societies—Addresses.

BORDER COUNTIES V.M.S.

Pres: Mr. J. W. Hewson, M.R.C.V.S., Wigton

Hon. Sec. (pro tem.): Mr. F. W. Garnett, M.R.C.V.S.,

Dalegarth, Windermere

Meetings, Second Friday of Feb., June, and October

GLASGOW V.M.S.

Pres. Principal McCall.

Hon. Sec. Mr. J. Gibson, 16 Overdale Gdns, Langside, Glas.

ROYAL VETERINARY COLLEGE V.M.A.

Pres: Prof. E. Brayley Reynolds.

Hon. Sec: Mr. B. Gorton, M.R.C.V.S. Assist. Mr. E. E. Jelbart

ASSOCIATION OF VETERINARY OFFICERS OF HEALTH

Pres: Mr. T. Douglas, M.R.C.V.S., Kilmarnock

Hon. Sec. & Treas. Mr. A. M. Trotter, M.R.C.V.S.,

Moore Street, Abattoir, Glasgow

NATIONAL ASSOCIATION OF VETERINARY INSPECTORS

Pres: Mr. J. Abson, F.R.C.V.S., Sheffield

Hon. Sec: Mr. Trevor Spencer, M.R.C.V.S., Kettering

MUNSTER VETERINARY INSPECTORS' ASSOCIATION

Pres: Mr. D. M. Barry, M.R.C.V.S., Mallow

Hon. Sec: Mr. T. I. Alexander, M.R.C.V.S., Kinsall

NATIONAL VETERINARY BENEVOLENT & MUTUAL DEFENCE SOCIETY.

Pres: Mr. W. A. Taylor, F.R.C.V.S., Brick-st., Manchester

Hon. Sec: Mr. G. H. Locke, M.R.C.V.S.,

Grosvenor Street, Oxford-st., Manchester

Treas: Mr. J. B. Wolstenholme, F.R.C.V.S.,

Quay-street, Manchester

VICTORIA VETERINARY BENEVOLENT FUND.

Pres. Mr. R. C. Trigger, J.P., Newcastle, Staffs.

Hon. Sec. & Treas: Mr. W. Shipley, F.R.C.V.S.,

South Town, Great Yarmouth

COLONIAL SOCIETIES (continued next page)

VETERINARY ASSOCIATION OF NEW SOUTH WALES

Pres: Mr. S. T. D. Symons, M.R.C.V.S., Chief Insp. of Stock

V. Pres: Maj. A. P. Gribben, F.V.O., M.R.C.V.S.

Hon. Sec. & Treas: Mr. Max. Henry, M.R.C.V.S., B.V.Sc. (SYD).

56 Bridge Street, Sydney.

BRITISH COLUMBIA V.M.A.

Pres: Dr. Gibbons, M.R.C.V.S., Vancouver,

Hon. Pres: Dr. Hamilton, M.R.C.V.S., Victoria.

Sec., Treas., Registrar. Dr. T. Jagger, V.S., Vancouver.

ASSOCIATION MÉDICALE VÉTÉRINAIRE FRANÇAISE "LAVAL"

Sec: Mr. J. P. A. Haude, Montreal

PROVINCE OF QUÉBEC V.M.A.

Hon. Sec. Mr. Gustave Boyer, Rigaud, P.Q.

VETERINARY ASSOCIATION OF ALBERTA

Hon. Sec. Mr. C. H. H. Sweetapple,

For Saskatchewan, Alta, Can.

ONTARIO V.A.

Pres: Mr. J. H. Tennent, v.s., London, Ontario

Sec. & Treas: Mr. L. A. Wilson, Toronto, Ontario

TRANSVAAL V.M.A.

Pres: Mr. C. E. Gray, F.V.S., Box 134, Pretoria.

Hon. Sec: Mr. P. Conacher, G.V.S., Box 877, Johannesburg

NATIONAL VETERINARY ASSOCIATION*Past President:* Mr. W. Woods, F.R.C.V.S., Wigan*Sec:**Assist. Sec:* Mr. W. L. Harrison, F.R.C.V.S.,
11 Anchor Terrace, Southwark Bridge, S.E.*Treas:* Prof. G. H. Wooldridge, F.R.C.V.S.,
Ryl. Vet. Coll., Camden Town N.W.**Northern Branch:***Pres.* W. A. Taylor, (F) Brick Street, Manchester*Hon. Sec.* A. W. Noël Pillers, (F)

71 Smithdown Lane, Liverpool

LANCASHIRE V.M.A.

Pres: Mr. G. H. Lookes, M.R.C.V.S.,

Grosvenor-street, Manchester

Hon. Sec. Mr. J. W. Brittlebank, M.R.C.V.S.,

Town Hall, Manchester

Hon. Treas: Mr. E. H. Stent, M.R.C.V.S., Preston-st, Hulme*Meetings,* 1st Thursday in April, June, Sept., & Dec.

LIVERPOOL UNIVERSITY V.M.S.

Pres: Mr. J. P. Heyes, F.R.C.V.S., Wigan*Hon. Sec:* Mr. A. Walker, M.R.C.V.S., Mill Lane, West Derby*Pathological Sec:* Mr. D. C. Matheson, F.R.C.V.S.*Meetings,* May, July, October, January.

MIDLAND COUNTIES V.M.A.

Pres: Mr. J. Malcolm, F.R.C.V.S., Birmingham*Hon. Sec:* Mr. H. J. Dawes, F.R.C.V.S.,

Camden House, High-st., West Bromwich

Hon. Treas. Mr. J. J. Burchnall, M.R.C.V.S., Barrow-on-Soar*Meetings,* Second Tuesday, Wednesday, Thursday, and
Friday alternately in Feb., May, Aug. and Nov.

NORTH OF ENGLAND V.M.A.

*Pres:**Hon. Sec:* T. T. Jack, M.R.C.V.S., 3 Elmwood Ter, Sunderland*Meetings,* Third Friday, Feb., May, Aug. and Nov.

NORTH MIDLAND VETERINARY ASSOCIATION

Pres: Mr. F. L. Somerset, M.R.C.V.S., Chesterfield*Hon. Sec:* Mr. J. S. Lloyd, F.R.C.V.S., Sheffield

NORTH WALES V.M.A.

Pres: Mr. Hugh Williams, M.R.C.V.S., Ty Croes*Hon. Sec.* Mr. L. W. Wynn Lloyd, M.R.C.V.S., Carnarvon*Meetings,* First Tuesday, March and September

SOUTH DURHAM AND NORTH YORKSHIRE V.M.A.

Pres: Mr. J. M. Walker, F.R.C.V.S., Hartlepool*Hon. Sec. & Treas:* Mr. J. H. Taylor, F.R.C.V.S.,

Grange Road, Darlington

Meetings, First Friday, Mar., June, Sept. and Dec.

YORKSHIRE VET. ASSOCIATION

Pres: Mr. J. Abson, F.R.C.V.S., Norfolk Street, Sheffield*Hon. Sec:* Mr. J. Clarkson, M.R.C.V.S., Garforth, nr. Leeds*Hon. Treas:* Mr. A. McCarmick, M.R.C.V.S.,

Kirkstall-road, Leeds

Southern Branch:*Pres.* Sir Stewart Stockman, 4 Whitehall Place, S.W.*Sec.* T. C. Toope, 34 High Street, Dover

CENTRAL V.S.

Pres. Prof. G. H. Wooldridge, R.V. Coll., Camden Town.*Hon. Sec:* Mr. H. A. McCormack, M.R.C.V.S.,

122 St. George's Avenue, Tufnell Park, N.

Meetings, First Thursday in each month, except August
and September, 10 Red Lion Square, Holborn, at 7 p.m.

EASTERN COUNTIES V.M.A.

Pres. Mr. F. Morton Wallis, M.R.C.V.S., Halstead, Essex*Hon. Sec. & Treas:* Mr. A. C. Holl, M.R.C.V.S.,

New Buckenham

Meetings, Second Tuesday, Feb., July and Sept.

LINCOLNSHIRE AND DISTRICT V.M.S.

Pres. Mr. C. W. Townsend, F.R.C.V.S.,

Long Stanton, Cambridge

Hon. Sec. & Treas: Mr. Tom Hicks, M.R.C.V.S.,

Boston Road, Sleaford

Meetings, Second Thursday Feb., June, and October

ROYAL COUNTIES V.M.A.

Pres: Mr. J. C. Coleman, M.R.C.V.S., Swindon*Hon. Sec. & Treas:* Mr. G. P. Male, M.R.C.V.S., Reading*Meetings,* Last Friday, Jan., April, July and Nov.

SOUTHERN COUNTIES V.S.

Pres: Mr. G. H. Livesey, M.R.C.V.S., Hove, Sussex*Hon. Sec:* Mr. A. H. Archer, M.R.C.V.S., Southsea, Portsmouth*Hon. Treas:* Mr. E. W. Baker, M.R.C.V.S., Wimborne*Meetings,* Last Thursday, Mar., June and Sept.

SOUTH EASTERN V.A.

Pres. Mr. E. Lyne Dixon, M.R.C.V.S., Margate*Hon. Sec. & Treas.* Mr. Theo. C. Toope, M.R.C.V.S.,

34 High Street, Dover

Meeting,

WESTERN COUNTIES V.M.A.

Pres: Mr. C. E. Perry, F.R.C.V.S., Staple Hill, Bristol.*Hon. Sec.* Mr. W. Ascott, M.R.C.V.S., Bideford*Hon. Treas:* Mr. P. G. Bond, M.R.C.V.S., Plymouth*Meetings,* Third Thursday, March, July and November**Irish Branch:***Pres.* Mr. W. Watson, Municipal Buildings, Dublin*Sec.* Mr. P. D. Reavy, Leafield, Bundoran, Co. Donegal

CENTRAL V.A. OF IRELAND.

Pres: Mr. B. P. J. Mahony, M.R.C.V.S., Maryborough*Hon. Sec.* Mr. E. C. Winter, F.R.C.V.S., Queen-st., Limerick*Treas:* Mr. J. F. Healy, M.R.C.V.S., Midleton

CONNAUGHT V.M.A.

Pres. Mr. D. Hamilton, M.R.C.V.S., Ballina*Hon. Sec. & Treas.* Mr. A. J. Moffett, M.R.C.V.S., Galway

VET. MED. ASSN. OF IRELAND.

Pres: Mr. P. J. Howard, M.R.C.V.S., Ennis*Hon. Sec:* Prof. J. J. O'Connor, M.R.C.V.S., R.V. Coll., Dublin*Hon. Treas:* Prof. J. F. Craig, M.A., M.R.C.V.S.,

R.V. Coll., Dublin

NORTH OF IRELAND V.M.A.

Pres: Mr. J. A. Jordan, M.R.C.V.S., Belfast*Hon. Sec:* Mr. J. Ewing Johnston, M.R.C.V.S., Belfast*Hon. Treas:***Scottish Branch:***Pres.* Dr. O. Charnock Bradley, } Ryl. (Dick) V et.*Hon. Sec.* Prof. A. Gofton, } Coll: Edinburgh

NORTH OF SCOTLAND V.M.S.

Pres: Mr. W. Marshall, M.R.C.V.S., Aberdeen*Hon. Sec. & Treas:* Mr. G. Howie, M.R.C.V.S., Alford, Aberdeen*Meetings,* Last Saturday in January and August

ROYAL SCOTTISH V.S.

Pres: Mr. Reid, M.R.C.V.S., Auchtermuchty.

SCOTTISH METROPOLITAN V.M.S.

Pres: Mr. J. Riddoch, M.R.C.V.S., Edinburgh*Hon. Sec. & Treas:* Mr. Jas. Henderson, M.R.C.V.S.,

Public Health Dept., City Chambers, Edinburgh

WEST OF SCOTLAND V.M.A.

Pres: Prof. John R. McCall, M.R.C.V.S., Vety. Coll. Glasgow*Hon. Sec:* Mr. J. F. Macintyre, M.R.C.V.S.,

19 Bank Street, Hillhead, Glasgow

Hon. Treas: Mr. Geo. W. Weir, M.R.C.V.S.,

88 Crookston Street, Glasgow

Meetings, Second Wednesday, May, Oct. and January.**COLONIAL SOCIETIES: (see preceding page)**

CAPE OF GOOD HOPE V.M.S.

Pres. Mr. J. D. Borthwick, M.R.C.V.S., Cape Town*Hon. Sec. & Treas.* Mr. J. W. Crowhurst, F.R.C.V.S.,

Longmarket Street, Cape Town

CENTRAL CANADA V.A.

Hon. Sec: Mr. A. E. James, Ottawa

VET. ASSN. OF MANITOBA.

Pres: Dr. W. R. Taylor, Portage la Prairie*Hon. Sec. & Treas:* Mr. Wm. Hilton, Winnipeg

NATAL VETERINARY MEDICAL ASSOCIATION.

Pres. Mr. F. J. Carless, M.R.C.V.S., Mooi River*Hon. Sec. & Treas.* Mr. A. W. Shilston,

Vety. Research Laboratory, Pietermaritzburg

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ASEPSIS.

Recently there has been a little discussion upon asepsis, and the difficulties of obtaining it in veterinary practice. Undoubtedly the difficulties are great, and often insurmountable. On the other hand, every experienced practitioner knows that numberless serious operations have been performed under conditions which were anything but aseptic. Perhaps the recognition of these two truths accounted for much of the total indifference to asepsis that was very common amongst veterinary surgeons for many years. Perhaps even to-day the same recognition may lead some men to forget the golden rule of "Be aseptic when you can," when they might advantageously observe it.

Medical men know quite well that, even in human surgery, it is often impossible to ensure complete asepsis when operating in a general practice. This applies much more forcibly to veterinary operations, especially to emergency ones. But a medical man, though often working under far from ideal conditions, nevertheless frequently obtains perfect results. And similarly a veterinary surgeon, even more unfavourably placed, may do a great deal to minimise sepsis by observing a few simple rules.

The advantages of anaesthesia from the point of view of asepsis are obvious, as are also those of the modern methods of skin sterilisation with iodine or petrol. Of course, the operator ought to touch nothing that has not been sterilised, and all clinicians know that it is often impossible to keep to this rule in our work, but the regular immersion of the hands in a disinfectant after contamination will generally avert sepsis. Every practitioner knows these rules, but the difficulty is to observe them on many occasions in practice. When consciously operating under unfavourable conditions, a man is apt to think it useless to try to follow the Listerian precepts. But by sedulously keeping them in mind he may really succeed, under most conditions, in performing a wonderfully close approximation to an aseptic operation.

The advance of surgical and bacteriological knowledge has taught us that bacterial contamination during an operation is only possibly and not necessarily harmful, and it has simplified the technique of our asepsis. The first lesson should encourage us to operate, even under adverse circumstances, and the simplified technique helps us towards the aseptic ideal.

PRELIMINARY REPORT OF THE ETIOLOGY OF CAT INFLUENZA.

By J. BASIL BUXTON, F.R.C.V.S., D.V.H., Veterinary Superintendent, Wellcome Physiological Research Laboratories, Herne Hill, London, S.E.

The object of this note is to characterise an organism which I believe to be hitherto undescribed, which is obtainable from cats suffering from influenza, and appears to have a causal relation to this condition.

Clinicians have on several occasions called attention to the fact that there exists among cats a disease which, while resembling the respiratory form of "distemper" in some respects, yet shows certain pathological differences, and always presents a definite chain of symptoms. This disease has received the name of "Cat Influenza"; probably because its characteristic is a respiratory catarrh. It has been noticed particularly among animals that have returned from shows, those which have been purchased from dealers, and with special frequency among cats, especially the more delicate breeds, which are kept in numbers together in a warm moist atmosphere, particularly if the ventilation is insufficient. Its occurrence among animals living in the open is extremely uncommon. My attention was first directed to this disease by observing that the majority of cats at these laboratories, if kept for any length of time in the common cat-house developed it. The incubation period appears to be usually from ten to fourteen days, and apparently one attack confers but slight immunity. Adult cats may, and frequently do, suffer from as virulent an attack as kittens when brought into an area of infection.

The onset is usually mild in character, and the animal only has periodic sneezing attacks. There is at this stage no nasal or conjunctival discharge. In old cats, and those which have suffered from a previous attack, the infection may end here, or subsequent to this the animal may have a slimy discharge from the mouth, a common indication of sore throat, and show great difficulty in swallowing. All food is refused for from four days to a week, and then there is apparently a sudden and complete recovery. In young animals, and those suffering from a more virulent attack, on the third day from the onset of the sneezing there is a watery discharge from the eyes and marked photophobia, the discharge later becoming muco-purulent. At about this time there is also a profuse nasal discharge of a similar character, great difficulty in swallowing, and all food, even milk, is refused. Usually this condition persists for several days, and

is followed by resolution if the animal's strength can be maintained. In some cases, however, the infection extends, involves the pulmonary parenchyma, and death takes place in from 24 to 48 hours after the first signs of pneumonia. I have been fortunate in having at my disposal an almost continuous epidemic, so that the disease was seen in all ages and stages. It is extremely uncommon to find animals affected with influenza suffering from diarrhoea—there seems, indeed, to be a tendency towards constipation.

On post-mortem examination the lesions are found to be confined entirely to the respiratory tract. There is marked injection of the mucous membrane of the pharynx, larynx, and trachea with an abundant secretion of viscid, and sometimes frothy mucus. When the lungs are affected there is a typical croupous pneumonia.

In the early stages of the disease I was able in almost every case to isolate in pure culture from the smaller bronchi, and frequently from the trachea or organism of which the characteristics are given below, and which, so far as I have been able to ascertain, has not been previously described. In the later stages this is rarely possible. When the lungs are involved the organism can invariably be recovered from that situation in pure culture. In advanced cases also the organism can be recovered from the heart blood. The serum of cats suffering from this disease has been examined for agglutinating and complement binding properties with this organism, and has always shown a higher agglutinating and complement binding titre than has that from apparently healthy cats used as controls.

It seems probable that the discharge from the eyes and nose in the later stages owes its mucopurulent character to secondary organisms, because after the onset of these symptoms it is practically impossible to recover the organism from the upper air passages in pure culture.

MORPHOLOGY OF THE ORGANISM ISOLATED FROM CASES OF CAT INFLUENZA.

A short bacillus from 1.5 microns to 2.5 microns in length and about .3 of a micron in breadth, rarely found in chains except in artificial media, when they are not composed of more than three or four elements. It shows marked brownian movement, but is not progressively motile, and is aerobic in habit.

STAINING REACTIONS.

The organism does not stain readily with the ordinary aniline dyes but best with Kühne's methylene blue or fuchsin.

CULTURAL CHARACTERS.

Plain agar stroke. In 24 hours at 37° C. there is a moderate growth which is raised, with a moist surface and almost colourless. After 48 hours the growth tends to spread and is greyish-white in colour, and shows a faint yellow tinge at the margin. This yellow colouration becomes more marked in older cultures, and is characteristic of the organism.

Blood agar stroke. The growth is similar in appearance to that on ordinary agar, but shows a greater tendency to the yellow colouration.

Potato. After 24 hours at 37° C. the growth is very meagre and scarcely visible. In 72 hours it is fairly well marked and shows a faint yellow colour.

Gelatin stroke resembles the growth on agar.

Gelatin stab. Growth takes place at the surface and about half of the way down the needle track, but does not show any peculiar character and the gelatin is not liquefied.

Broth. After 24 hours there is a moderate turbidity. After 48 hours a rich growth and some sediment in the bottom of the tube. There is no odour.

Milk is not usually coagulated at the end of 24 hours, two strains, however, show a slight coagulation after from 36 to 48 hours.

EXPERIMENTAL INFECTION.

It has been found possible to transmit the disease to healthy cats experimentally with a pure culture of this organism—a typical result being obtained by injecting a suspension in saline into the nostrils.

A further communication concerning experimental infection, protection and serum diagnosis will be made at a later date.

EASTERN COUNTIES VETERINARY MEDICAL SOCIETY. [NATIONAL V.M.A.—SOUTHERN BRANCH].

The annual meeting was held on February 24th, at the Bell Hotel, Norwich. Mr. W. L. Little, Yarmouth, a vice-president, was voted to the chair in the absence of the President (Mr. F. B. O. Taylor) who has left the district for Stratford-on-Avon. Present: Prof. G. H. Wooldridge, London; Messrs. W. Shipley, D. S. Jack, H. F. Downe, F. Morton Wallis, W. Waters, Sydney Smith, sen., A. McTurk, G. McIntyre, A. C. Holl, M. Bray, H. Buckingham, J. Robertson, H. V. Low, and Sidney Smith, jun., hon. sec. and treas.

Letters regretting absence were received from Sir John McFadyean, Messrs. H. P. Standley, N. Almond, F. T. G. Hobday, A. H. Santy, F. L. Gooch, E. H. Leach, J. E. Kitchin, J. Hammond, T. G. Heatley, P. Turner, H. E. Wilkinson, J. F. Thurston, J. K. Gooch, A. Holl, E. Margaron, W. E. Livock, J. Cleveland, W. J. Browning, W. Turtill, C. C. Nesling, T. Love, J. Bee, A. F. Castle, T. J. Faithfull, and Captain Bone, A.V.C.

The minutes of the last meeting were taken as read on the proposition of Mr. Shipley.

NEW MEMBER.

Mr. BAXTER, Downham Market, who had been proposed and seconded at a meeting of the Committee, was elected.

Correspondence.—The HON. SEC. reported an acknowledgment from Mrs. W. M. Reeman of the wreath sent by the Society, and a letter from Mr. F. B. O. Taylor thanking the members for their good wishes on his new venture, and saying how glad he had been to do what he could for the Society as its hon. sec. for a few years.

SECRETARY'S REPORT.

The HON. SEC., in his third annual report, said that again they had been rather unfortunate in the matter of a

President, as Mr. Taylor, very shortly after he was elected, left the district. It was a notable fact that the members had been entirely responsible for the papers and discussions at the meetings. Mr. Shipley introduced "Parasitic Mange," Mr. Castle read a paper on "Sterility in the Mare," and Mr. Waters read an interesting paper on "A Few Cases." Two new members had been elected, but unfortunately two prominent members—Mr. W. M. Reeman and Mr. W. Bower—both of whom had held the office of President, had died. The balance sheet was a favourable one, although a second donation of ten guineas to the International Veterinary Congress was made, also five guineas to the Victoria Veterinary Benevolent Fund. The balance in hand was £20 19s. 6d., compared with £22 13s. 1d. last year. One subscription was outstanding, and half-a-dozen letters had failed to evoke any reply. There had been a good demand for the Society's instruments, especially for the new tooth cutters, which had been out 15 times, the sandcrack instruments twice, and the écraseur and Robinson's tooth forceps once each. As he was resigning, he took that opportunity to thank all the members for the support they had given him during the three years he had held the office of secretary. He did not regret the time given to the work, but he thought he had done his share, and it was time for someone else to take on the work.

Mr. WALLIS proposed the adoption of the report and balance-sheet. Mr. Robertson seconded, and this was agreed to.

ELECTION OF OFFICERS.

President.—The Hon. Sec. said the Committee unanimously recommended that Mr. W. L. Little be asked to accept the presidency for the coming year. Mr. Waters proposed, and Mr. Smith, sen., seconded, and this was carried.

Mr. LITTLE said he realised that the president accepted some responsibility, and he could not have taken the office unless he felt he had the support, individual and collective, of all the members. He hoped they would resolve to unite to make a success of the Society. There were several ways in which they could help. There were members of the profession living in the district who were not members of the Society. They should be button-holed and brought to our meetings. Then they would not be long before they made up their minds to join. They could help the Secretary by taking notice of his requests—often quite easy to forget. In making him head of their Society they had honoured him in such a manner that he did not know how they could honour him more, and he thanked them for it most heartily.

Vice-presidents.—Messrs. T. E. BARCHAM, J. BARR, E. A. HUDSON were proposed by Mr. Shipley. Mr. Waters seconded and this was carried.

Auditors.—Messrs. W. SHIPLEY and T. G. HEATLEY. Proposed by Mr. Robertson and carried.

Hon. Sec. and Treas.—Mr. A. C. HOLL. Proposed by Mr. S. Smith, jun., seconded by Mr. W. Shipley, and carried.

Committee.—The Committee was re-elected except that Mr. Sidney Smith, jun., will take the place of Mr. J. Barr, the other members being Messrs. Sidney Smith, sen., T. E. Auger, J. K. Gooch, H. P. Standley, H. Low and W. Waters.

The Instruments.—Mr. SIDNEY SMITH, JUN., said he would be willing to take charge still of the instruments as he was conveniently situated as to trains, and it might assist the new secretary, who lived in the country. The suggestion was approved.

Mr. SHIPLEY moved that one pound be given to Mr. Smith's man for keeping the instruments clean and in order, as they were always sent out well, and it meant a certain amount of trouble.

Mr. WATERS seconded, and this was agreed to. Mr. SMITH, on behalf of his man, expressed his thanks.

THE NATIONAL VETERINARY ASSOCIATION.

Mr. SHIPLEY proposed that the affiliation fee of one shilling per member be sent to the National Veterinary Association. Mr. Robertson seconded, and this having been carried it was resolved that Messrs. M. Wallis, S. Smith, jun., and the new Hon. Sec. be the Society's representatives on the Council of the N.V.A.

V.V.B. Fund.—Mr. WALLIS proposed that 5 guineas again be given to the Victoria Veterinary Benevolent Fund. Mr. Buckingham seconded, and this was agreed.

Royal Sanitary Institute.—The question of sending a delegate to the Blackpool Congress in July was referred to the Committee on the motion of Mr. Shipley, seconded by Mr. Morton Wallis.

HUNTING FUND.

The Hon. Sec. read a circular with reference to a memorial to the late Mr. William Hunting, and reminded the meeting he was an honorary associate of the Society. He moved they show their sympathy by subscribing five guineas. Mr. Shipley seconded, and this was agreed to.

COUNCIL ELECTION.

The Hon. Sec. said Mr. Shipley came up for election again this year owing to his being drawn in the ballot to take the place of a deceased member. He moved that the Society nominate Mr. Shipley as candidate, and give him their support.

Mr. WALLIS seconded, and said he hoped everyone would do their utmost to support Mr. Shipley.

Mr. SHIPLEY said he would be glad to have their help as he did not like to go in for a thing and then be kicked out unless anyone thought it was time for him to go.

The motion was unanimously adopted.

Summer Meeting.—Mr. WALLIS proposed that the next meeting be held at Colchester, and he hoped Norfolk and Suffolk members would make an effort to attend. Mr. Shipley seconded, and this was carried.

POST-MORTEM SPECIMENS.

Mr. WATERS presented a large thrombus or clot he removed from a three-year-old cart filly affected with sclerostoma. During life this filly showed every symptom of thrombosis, but though he examined carefully per rectum, he was unable to demonstrate anything. He made a post-mortem and found this thrombus in the anterior division of the mesenteric artery. It was interesting owing to its position, being the one place where it could not be demonstrated during life. This filly starved herself to death, and had probably been ailing for three or four months. All the other arteries were perfectly healthy.

Mr. Waters also brought a wild rabbit's skull which had extraordinary teeth, the result probably of the incisor teeth not meeting one another during life. This rabbit had also broken a hind leg, which set in a false joint at the hock, and despite all its afflictions when caught on his brother's farm, was in good order.

Prof. WOOLDRIDGE said the thrombus specimen was quite an unusual one on account of its enormous size, the largest in his experience. It was usually found in the anterior mesenteric artery.

The Professor then exhibited the largest bladder calculus he had ever seen, taken from a retriever on post-mortem. He never saw the dog during life. The calculus, he believed, weighed about 12 ounces.

Next he showed two specimens of navicular bones which he thought might be of interest. He had previously shown one specimen at the meeting of the Central Veterinary Society. The animal had picked up a

nail and was slaughtered nine days later. The nail went through the frog, tendon, and navicular bursa, and actually punctured the navicular bone. He did not think it any use attempting to treat the case.

Since then he had come across a case in which he was asked to act as referee for an insurance company. This horse picked up a nail last October, and was only killed a week or ten days ago, and from the foot he took the second navicular bone shown. The horse was acutely lame, but there had been some little discharge from the heel above the coronet, which would close, and there would not be much discharge, but in a fortnight or three weeks the horse would get more acutely lame, another slight abscess form and burst. That had gone on all this time. The owners wanted to have the horse slaughtered, but the insurance company would not give permission. He gave it as his opinion that the case was not worth treatment, and it was destroyed. The foot was sent him and on dissecting it he found the extensor pedis in exactly the condition he had described at the Central as likely to occur in long-standing cases of this nature. At the back of the navicular bone the tendon was adherent, and there was exostosis all round the rim of it, but the joints were not implicated. The horse would walk moderately, but if he touched his toe he hopped with it in the air. There was some acute inflammatory phenomena in the space above the navicular bone, and immediately behind the coronet bone. It was from there that the discharge found its way out at the back of the heel.

Mr. WALLIS said he had one case, and the horse was shot next day. The bone was broken in two. This horse had picked up one of those square French nails—an abominable thing.

Mr. McTURK exhibited a specimen of double intussusception in the dog, obtained on post-mortem from a greyhound three or four months old, which was thought to have worms, but he found only one worm in the bowel. This pup had been ailing for about a fortnight, and was found dead one morning. It had probably been dosed for worms, and he did not know whether invagination of the bowel was subsequent to it, or whether that might account for no worms being discovered in the intestines.

The PRESIDENT proposed a vote of thanks to the gentlemen who had brought the specimens which, he said, added greatly to the interest of the meeting. He was glad that on this occasion they had more specimens than usual.

Mr. SMITH, SEN., seconded the vote of thanks, and it was carried.

PURPURA HÆMORRHAGICA.

By Prof. WOOLDRIDGE, R.V. Coll: London.

It is very difficult to say what is really the best name for this affection since the precise etiology is unknown. Under these circumstances it is probably best to call it by one or other of the most pronounced symptoms, and if so then either Petechial fever or Anasarcous fever should commend themselves as being about the most appropriate. Some English writers (Williams and Robertson) in former times have described the condition as "Scarlatina," but as there is not any resemblance to or association with that disease in the human subject, nor is it transmissible to man, the name is open to very great objection.

Etiology. As I have just anticipated, the true exciting cause of this affection of the horse is unknown. It is often said to be a microbic affection, and an infective disease; by some it is said to be a septicæmia due either to an ultra-visible virus, or to a streptococcus; or a staphylococcus; by others it is said to be due to a bacillus or to a pasteurella. It may be that the local

lesions are caused by a plugging of some of the capillaries with organisms.

When one gets so many of these theories suggested and with comparatively little experimental evidence to support any of them, one is usually safe to conclude that although there may be plenty of conjecture on the subject, there is really little or no exact knowledge. Against the theory of specific microbic origin is the fact that no definite micro-organism has yet been isolated capable of producing the affection, and moreover transfusions of blood from affected to healthy horses and inoculations of discharges from affected animals have all been uniformly negative. But although the exciting causes of petechial fever are obscure, there are certain predisposing causes which are frequently in operation and with which we are all quite familiar. Although purpura is said to occur occasionally as a primary affection, it is far more frequently a sequel to or a complication of some well marked debilitating disease, such as strangles and influenza, while cases are recorded following various infected wounds, chronic abscesses and suppurating lymphatic glands. Dieckerhoff, whose views on purpura are always worthy of consideration, regards the disease as an auto-intoxication arising from various primary foci, such as suppurative catarrh, suppurating lymphatic glands, etc., due to micrococci, and causing irritation or other injury to the vessel walls, so as to lead to hæmorrhage. Cadeac considers it to be due to the absorption of any bacterial toxin having a vaso-dilatory action.

I am inclined to the belief that the reported primary cases of purpura are really secondary, but that the primary condition may have escaped observation, for the mildness or severity of the primary affection even when observed, appears to bear no indication of the probability or otherwise of an attack of purpura. An animal may have a comparatively mild attack of strangles or influenza, and appear to be doing quite well, and suddenly develop purpura hæmorrhagica; while other horses in the same stables may have a very severe attack of the primary affection and yet make an uneventful and uncomplicated recovery. In such stables there may be a single case of petechial fever, or there may be several, but one is quite unable to find any causes operating in the affected that are not also present in those that escape the unfortunate sequel.

Clinically, the disease is often associated with bad hygienic conditions such as dirty stables, badly ventilated and badly drained, and with bad flooring, and sewage contaminated water. By many it is thought to be directly attributable to such conditions. But purpura hæmorrhagica may occur in ideal stables where none of these bad conditions obtain, and again debilitating diseases as strangles and influenza are quite common in the worst stables without purpura occurring as a sequel. Such conditions then can only be regarded as contributory inasmuch as they tend to reduce the vitality of an animal and mitigate against his making a good and complete recovery from his primary complaint.

The condition, then, would appear to be due to an exhausted state of the animal's vitality through previous disease, producing alterations in the constitution of the blood, such as a reduction of the fibrin-forming elements, and this together with great loss of tone of the heart and the capillaries favours hæmorrhages and transfusions.

Animals affected. On this point I should particularly like the experience of the members of the Society. I have not seen the condition in any other animal than the horse, and though the donkey and mule are susceptible to most equine affections, I have not met with it in either case. Nor have I seen it in cattle, though it is stated to occur by various Continental authorities. In cattle I have seen cases of anasarca of the limbs, and

under the sternum and abdomen, which might possibly have some resemblance to the equine affection, but I have usually regarded them as due to local causes and much more amenable to treatment; and moreover they have not been accompanied by the petechial markings on the visible mucous membranes so typical of the condition in the horse.

Symptoms. Apart from the common history of previous disease from which the patient may appear to be making a good recovery, the special symptoms of purpura hæmorrhagica are usually developed rather suddenly, and may be well marked when first observed, sometimes they appear gradually and in succession. The most characteristic features consist of petechial markings on the visible mucous membranes, and cedematous swellings of dependent parts. The petechiae may be seen best on the nasal mucous membranes, the conjunctiva over the membrana nictitans, and inside the lips. If the latter are completely everted the ecchymoses are generally very obvious. In the mare they may also be seen on the mucous membrane of the vulva. They consist of blood spots varying in size from that of a split pea to the size of half-a-crown, or larger where several have coalesced. A nasal discharge may accompany them and may be slightly blood tinged. They occur suddenly and may disappear as suddenly, sometimes reappearing.

The swellings are more or less characteristic and, as already stated, they affect principally the dependent parts; the muzzle is usually one of the first seats, then one or more limbs, the eyelids, and under the breast and abdomen. They are cold and painless, and easily pit on digital pressure. The upper margin on the limbs usually has a sharp line of demarcation suggestive of the effect that would be produced by tying a cord round the upper part of the limb. A similar sharp demarcation is present at the anterior margin of abdominal swellings. At the muzzle the swellings, beginning at the nostrils and lips, extend upwards and then usually end abruptly, and if a headstall is on, its weight, even if loosely fitting, may produce a groove in the swelling. A curious feature in some cases is the sudden disappearance of a swelling in one region, and at the same time the appearance of one in another place. In many cases there exudes into the surface of the skin droplets of a sero-sanguineous fluid with no tendency to coagulate, and in horses with a light skin, as greys or creams, petechial markings may be seen.

There is usually considerable depression, the head hangs down and increases the cedema; the pulse is frequent, soft, feeble, and sometimes irregular. The internal temperature is rarely very high, it usually oscillates between 102 and 104° F. The appetite, which was probably improving on his apparent recovery from his primary affection, again fails, and this may be further intensified by the swollen lips interfering with prehension. The swelling of the nostrils may cause marked dyspnoea, and even asphyxia in exaggerated cases if tracheotomy is not performed. The swelling of the limbs interferes with flexion of the joints, causing difficulty in moving about, sometimes giving rise to fissures about the knees, hocks, and pasterns. The cedema under the body and elsewhere may so interfere with the local cutaneous circulation as to cause large sloughs of the skin and the development of large open wounds, which may become infected and lead to serious complications. Other systematic symptoms depend on what internal organs are implicated. One of the worst complications is a suddenly occurring cedema of the lungs, which will probably kill from asphyxia. Also pneumonia may occur as the result of saliva, food, or even drenches passing down the trachea. Such cases are usually septic and fatal. The alimentary tract may also be involved and enteritis produced, with diarrhoea and colicky pains. Such cases are also very unfavoura-

ble and usually terminate fatally. The urine is often rather scanty and albuminous, and in the male micturition may be difficult from a swollen sheath or pendulous penis. Nervous symptoms are also recorded, and vary from paraplegia when the spinal cord is affected, to fits and convulsions or coma when the meninges and brain are involved. Such cases are always fatal.

Diagnosis is very difficult, and should be guarded. The affection is fatal in about 50 per cent. of cases. Sometimes all the characteristic symptoms will disappear in 24 hours and the horse make a complete recovery. In other cases, when all appears to be going well the patient suddenly becomes worse and dies. The best indications are the gradual improvement in heart and general circulation, the gradual return of the appetite and reduction of the swellings, the absence of marked dyspnoea and of the colicky pains. In the more favourable cases a long period of convalescence—a month or six weeks is absolutely essential to a good recovery, and it is here that one is frequently handicapped by the owner, who thinks that a horse that has returned to his appetite a few days or a week is necessarily quite fit to go back to work. If a horse is sent to work too soon he is very likely to get a relapse of some kind, either pulmonary or intestinal, and will probably die.

In fatal cases death may be due to a variety of causes, viz.:—cedema of the brain, asphyxia from cedema of the lungs or from the swollen nose, pneumonia, enteritis, exhaustion, or from septic infection of sloughs of the skin.

Treatment. In the first place provide the best possible hygienic conditions, a nice warm loose box with plenty of fresh air, and well drained.

Careful nursing and judicious feeding are of the highest importance. Foods should be easily digestible and of a laxative or demulcent nature. They should be offered in small quantities, and frequently changed. Amongst the best are linseed mashes well boiled, oatmeal gruel, eggs and milk, hay-tea and barley water. A little green meat if available, and a little steamed meadow hay with a good aroma. To all or any of these may be added a little extract of malt. Of medicinal agents, stimulants may be useful, such as brandy, ether or port wine, but the chief objection to them is that they will have to be given as a drench, and I do not approve of drenching at all if it can possibly be avoided. The same applies to the old fashioned and well spoken of remedy *Ol. tereb. ʒii* in a pint of milk given twice daily. Potassium chlorate is another of the old remedies and it can be given in the drinking water (too depressant; may cause hæmolysis).

Each of these agents is highly spoken of by some practitioners and just as highly condemned by others. For my own part I care for neither; *Liq. ferri perchlor.* in doses of ʒss. or ʒi. b.i.d. is often recommended, and is useful. Adrenalin is given sometimes in doses of ʒi. of the 1-1000 sol. hypodermically, but where there is already a danger of sloughing of the skin I regard hypodermic injections of any kind as too risky. The medicinal treatment I prefer consists in the intra-tracheal injection of Lugol's solution of Iodine as recommended by Dieckerhoff. The solution consists of *I1*, *K1* 5, *H2O* 100, and the dose is from ʒss. to ʒii. twice daily for the first two or three days, and once daily for several days afterwards. The head must be raised and the strong sterile needle inserted between the rings of the trachea. The fluid must be injected very slowly indeed, and then should not cause a fit of coughing. Combined with this, if it is possible to ball the horse and he can swallow fairly easily, I recommend *Potass. iodid. ʒii.*, and *Acid aceto-salicyl.* and *Pulv. nucis vom.* aa ʒi. in bolus twice daily, or as an alternative in electuary. If that is not practicable omit *Pulv. nucis vom.* and give the other in the drinking water or other foods. Fresh nuclein in ʒss. doses daily hypodermically is very

good. It appears to increase leucocytes in number and vigour.

Collargol has been recommended very strongly, but it does not appear to have answered as well as anticipated. It is given intravenously at the jugular—doses of gr. vi.-xii. in 1% solution in sterile water.

Various vaccines and sera have been used, but I doubt if they are any good, as the specific organism—if there is one—has not yet been isolated. Polyvalent, anti-streptococcus, and antistaphylococcus vaccines and sera are the kind used. (Jensen's polyvalent serum, *Veterinary Record*, 21/2/14.)

Local treatment may be required, but the swellings must not be scarified to relieve the oedema, as that only increases the probability of sloughs. If sloughs have occurred then treat them with ordinary antiseptic emollient and protective dressings. Moreover, do not attempt to reduce the swellings with pressure bandages. Use bandages for warmth if necessary, but let them be quite loosely applied. They are better not used at all. Your client may want some local application. If so give him a mild, harmless one, as a lead lotion.

One more point, and that is that if the nasal swellings threaten to asphyxiate then tracheotomy may be performed, but do not be in too big a hurry owing to the great dangers from infection in this condition. Yet do not hesitate if it is really needed: use discretion.

When you have done your best you must consider yourself and your client fortunate if you save more than the half of your cases.

DISCUSSION.

The PRESIDENT said they were under a debt of gratitude to Prof. Wooldridge for coming so far to give them such an interesting paper. If not one of the most fatal diseases they had to deal with, it certainly was one of the most troublesome. He had hoped the Professor would have something satisfactory to tell them as to the etiology of the disease. It was very necessary to ascertain the cause, but at present even the nature of it was hardly known. It seemed to him to be an affection of the blood capillaries rather than of the blood itself, and brought on by some debilitating disease. They did not get purpura unless an animal had already been debilitated, generally by some suppurative disease. Prof. Wooldridge estimated 50 per cent. of deaths, but this seemed rather high. He might have been rather fortunate, though he had kept no strict record. In *The Record* a writer spoke of a mortality of 40 per cent. which he also considered a little high, because mild cases of purpura occurred with a few petechiae in the nostrils, and a few swellings about the nostrils and legs; these would get well. If they restricted themselves to bad cases, with huge swellings on the head or limbs, then 50 per cent. was rather low. He thought they got more mild cases than bad ones. In the old days, before stables were kept in the hygienic state they are now, the cases were treated by half-suffocating the patients, and they nearly all died—which was not to be wondered at. Prof. Wooldridge attributed death to asphyxia, but in his opinion this was not the case. Suffocation did not often happen now because they adopted tracheotomy. When the lungs were affected it might be what one would call pneumonia. He was glad to hear the Professor say he did not believe in scarifying the swellings. Some people considered scarification necessary, but he did not remember a case in which it was necessary and had never seen it done.

Mr. WALLIS said he was able to pat himself on the back after what the Professor had said, because it agreed with his practice. He thoroughly agreed with what was said about hypodermic injections, for these invariably meant a large swelling which gave a good deal of trouble, and probably sloughing, whatever

measures they took to make the wound thoroughly aseptic. He believed in Nuclein, and in preference to giving it hypodermically had given it in milk. In the last case he had, finding a mare would drink milk instead of water he gave 5 per cent. Nuclein in milk and she took it nicely. He was obliged to perform tracheotomy as he was living twelve miles off, and he dare not leave the mare the night through, and the farmer was able by means of a very small funnel and six or eight inches of $\frac{1}{4}$ -inch tube to give the solution through it very slowly night and morning, half-an-ounce at a time. This was instead of his having to go over and inject it into the trachea. He had found no trouble in healing, and regarded this as partly due to the constant use of Iodine, and also when the tube was removed being very particular to swab out twice a day with cotton wool, and dress with Tincture of iodine on each side. Desiccated malt extract was a very useful thing, and if dissolved in warm water and put into milk, horses would take it when otherwise they would not touch it. It was a very good digestive and stimulant. In big cart horses he had found great relief from hay bandages, not put on tightly, to keep up the temperature rather than to exercise any pressure. The bandages were put on at least once or twice a day, and he had always found them beneficial. Feeding was a very difficult matter, and they had to exercise their ingenuity to get their patients to take sufficient. He did not believe in drenching if they could get medicine into them in any other way.

Mr. Low said he had a case a fortnight or three weeks ago. The horse was very bad with pneumonia and pleurisy, and on some days got on as well as possible, but there was always some lingering symptom he did not like. He watched very carefully and said the horse might get some other trouble or have a relapse. He got a message to go at once. One of his assistants went and reported that the horse had all four legs swollen up as big as his body with a temperature of 105, and pulse 80. He went next morning and found the horse had the typical symptoms of purpura. He gave Iodine and Iodide of potassium as a draught, continued it for several days, and the horse got better for a week. Then he had a relapse, with pulse up to 100, and seemed like dying, but the treatment was continued, and next day he was very much better. This went on for a week and then the horse got down in his box and could not get up. It was a small box with no roof to pull him up. He turned him round, gave him a push, and eventually he got up, blowing very hard, pulse up tremendously, and all the symptoms as bad as they could be. He continued the treatment, telling the attendant to give the Iodine and Iodide of potassium solution a tablespoonful at a time, and not to hurry if it took him half-an-hour. From that time the horse had improved and made a complete recovery. He had treated several other cases similarly with success.

He had another case in which the horse had tremendously swollen limbs and never moved once in 56 hours. He made a good recovery, and was sold for £50, although the owner had offered to sell it for 30s. when ill.

Mr. BUCKINGHAM asked whether Prof. Wooldridge had observed on post-mortem any lesions on the endocardium or even in the pericardium. Had he any experience of giving a dose of physic in the early stages of purpura?

Mr. SYDNEY SMITH, junr., asked Prof. Wooldridge if exercise was not of value in regulating the swellings. He had found in a few cases he had that a reasonable amount of daily exercise had been of considerable benefit.

Mr. SHIPLEY said there had been an attempt to give this disease five or six names, and the Professor really

styled it a petechial fever. It was most unfortunate that ridiculous names should be given to the different diseases. Was purpura a fever? Was it generally denoted by a temperature? In his experience it was not. It would be much better if they left out fever, as in milk fever and other things, and he thought they should stick to the old title. There was one symptom, or series of symptoms, not mentioned which occurred frequently—the skin lesions. He had seen many cases where the animal appeared to have something like urticaria, elevation of the hair in patches without any huge swellings about limbs or head, but petechial spots in the membranes and other symptoms of purpura. In several cases of recovery hair came off in round patches like ringworm. In one year he had eight or ten similar cases. Last year in Yarmouth there were many cases of purpura, and many died, but they were not of the kind he had just described. The colic and so-called pneumonia he was not quite prepared to accept as pneumonia, and he believed this was borne out by post-mortems. The colicky pains and apparent pneumonia was nothing more than hæmorrhages into the bowels and lungs, and they did not get real pneumonia as the cause of death. He had made post-mortems whenever possible. He did not agree with Prof. Wooldridge at all in regard to feeding. He did not believe soft foods or laxatives were indicated in cases of purpura. It was difficult to know what to give, but his view was that laxatives or anything which put the bowels into an excitable condition tended to hæmorrhage, and should be avoided. A dose of physic he would look upon as deadly poison. He heard prescribed balls of nux vomica and other things, but he wanted to know the object in giving this and potassium iodide. What was the object of giving iodine in any form? He appreciated that iodine was useful, but Prof. Wooldridge should tell them why he prescribed iodine, or why they had used turpentine. Collargol was suggested, and he would like to know what it was and its therapeutic action. They ought to know a little more about the drugs they used, and why they used them. As to tracheotomy, if there was any suggestion of huge swellings about the head or nostrils, and any interference with respiration, the sooner they used a tracheotomy tube the better, because this put the parts affected at rest and gave a better chance of recovery. His experience had not been that it was difficult to get healing. Prof. Wooldridge, practising in a big city, had very difficult conditions. In a country town they had a much better chance of dealing with their animals—in better air, with better stable room, and not so much danger of infection from septic matter as in big cities. If there was any doubt in swelling of the head in purpura they should insert a tracheotomy tube, which made the administration of Lugol's solution easier, and saved the trouble and danger of frequent subcutaneous injections.

Mr. ROBERTSON thought it would be very bad practice to push in hypodermic injections night and morning; tracheotomy was much better. He wondered how it would be to leave in a big tube as they did for husk in calves, for two or three days.

Prof. WOOLDRIDGE, in reply, thanked the members for the reception given to his paper. Nobody apparently had referred to the occurrence of purpura in the ox, ass or mule, and he took it nobody had had experience of it in these animals—(Several members: That is so)—but on the Continent it was said to occur not infrequently in cattle. He had seen cases of swollen extremities in cattle that might be confused with it, but had never seen purpura hæmorrhagica in the ox. Mr. Little thought most deaths occurred through pneumonia, not from suffocation; and Mr. Shipley did not think death arose from pneumonia. There they had two different views. In his own opinion death occurred from either, but under different conditions. In the majority of

cases death was not the result of pneumonia, and he did not wish to convey that. In the vast majority of cases it was due to œdema of the lungs, the same condition attacking the lungs as in the subcutaneous tissues and the mucous membranes. Pneumonia occurred only in those long drawn out cases, not in those that died within a week. In cases where they got œdema of the lungs they also got those small hæmorrhages corresponding with what they saw on the membranes, and sometimes even larger. They got them in the lungs as large as a walnut. Local lesions occurred in the course of this well-marked œdema, and death then resulted from suffocation. Mr. Little thought he meant suffocation from swellings in the nose, but he had not that in mind. Asphyxia was more frequent from œdema of the lungs. He was glad Mr. Wallis agreed with his deprecation of hypodermic injections where they could be avoided. He had been inconsistent, for he recommended it should be avoided, and later on referred to nuclein which might be given hypodermically, but he found one got better results from its use hypodermically than when given in any other way. Mr. Wallis got his case to take it voluntarily, and nearly all their patients would do so. It might be better and safer to follow Mr. Wallis suggestion and let it be given by the mouth, or even per rectum. Given in a little warm normal saline of blood heat it could be absorbed from the rectum just as easily as from the stomach. He was rather interested in Mr. Wallis' use of hay bandages and recommended them very strongly in swollen legs from lymphangitis, with a certain amount of pressure, but he had not resorted to them in purpura because pressure was contra-indicated. Mr. Low's cases were very interesting, and he was struck with the benefit derived from larger internal doses of iodine, but Mr. Bloye, of Plymouth, said he had no good results from this treatment. That made it difficult for them to choose what was the best method. Mr. Buckingham asked if he had observed lesions of the endocardium, and he regretted that he did not refer in his paper to post-mortem appearances in cases that had died from purpura. These ecchymoses might occur all over the body. They might be found in the peritoneum, the pleura, and the endocardium, also in the muscular tissues, and sometimes in the liver substance and kidneys. When there were any in the kidneys they had albuminuria. The suggestion of a dose of physic struck him in the same way that it did Mr. Shipley, and he would regard it as highly dangerous. He would like to ask Mr. Buckingham if he gave it.

Mr. BUCKINGHAM said it was an idea amongst practitioners in his younger days, twenty or more years ago when he heard it recommended, but he had never seen it carried out. He had not resorted to it himself.

Prof. WOOLDRIDGE said he never regarded a dose of physic as indicated, although there might be a little arrest in the passage of the fæces, but this might be due to the patient having been off his feed from the original infection, and not having much ingesta to pass. Physic was not required, and was very likely to set up superpurgation. He would hesitate very considerably before using it. Mr. Sidney Smith, jun., wanted to know whether exercise was of any advantage. He thought it was not, and that it was contra-indicated. With a horse so debilitated, the more near approach to complete rest that could be given the better. (Edematous legs from lymphangitis, puffy and gummy legs were a different thing. As a horse became convalescent, then a little judicious exercise gradually progressive was indicated, but not until then. He was glad to find Mr. Shipley in such fighting form. He was in excellent trim. He wanted to know if purpura was a fever, and his reply was emphatically, Yes, but not a high fever. The normal temperature was 99 to 101°, anything over that was a febrile temperature. The average range of temperature in purpura is 102 to 104°, sometimes 106°.

Mr. Low quoted 105°. He thought they were justified in regarding it as a fever in the large majority of cases. The main objection to the term purpura, as applied to the horse, was that the same name applied to a disease in the human being with which there was no connection or association. He certainly omitted reference to the symptom of urticaria on the skin, though he had seen it, and should have referred to it. It would occur in most cases if they saw them early. It was often the first stage to the more pronounced swelling of the skin. In some cases the more pronounced swelling did not occur, and the local lesions were quite small and limited and suggested urticaria, rather like circular weals of hair sticking up. He had not seen the hair coming off in patches like ringworm. It was interesting, and he would look out for it in future. If he had had his attention drawn to it he would probably have thought it was a case complicated with ringworm. The objection Mr. Shipley pointed out with regard to pneumonia causing death he had already referred to. He agreed with him absolutely. The condition Mr. Shipley referred to was œdema of the lungs. Mr. Shipley did not care for soft foods, and thought they were not indicated because they tended to produce hæmorrhages, but the Professor said he could not see how a bland, non-irritant demulcent passing through the intestines could produce hæmorrhages. On this point he was afraid he and Mr. Shipley would continue to hold divergent views. When it came to feeding a horse with purpura on hard dry foods he would often refuse to touch them. He could not manipulate them with his lips, prehension was interfered with, and they had to resort to something he could partly suck and slop up. He would take all risk of producing possible hæmorrhages into intestines by a demulcent. The question as to the action of drugs employed was most pertinent. He refused to use any drug unless he could see a probability of some good arising therapeutically. He did not believe in the indiscriminate use of any drug because it had been said to do some good. Those were the reasons why he should object to turpentine which was thought to screw up the capillaries and stop hæmorrhages. He could not see how any advantage could arise from Potassium chlorate or from Liq. ferri perchlor. Potass. chlor. was recommended because it was thought that purpura had something to do with the lack of oxygen, and because Potass. chlor. when heated in a test tube yielded oxygen. So it was thought it would yield something similar in the blood when administered. If the blood required oxygen it would get it from the air inspired. Then there was the danger of producing hæmolysis and a depressant action in an already depressed animal. As to Pot. iod., Aceto-salicylic acid, and Nux vomica, he did not know any drugs which reduced œdema so well. Aceto-salicylic acid had come forward as one of the best febrifuges they possessed; and it diminished the chance of a suddenly rising high temperature and acted as a general internal antiseptic to diminish or overcome the ill-effects of possible secondary infection. They all knew the effect of nux vomica as an excellent tonic, and it was for its tonic effect that he used it. Mr. Shipley asked what Collargol was. It was a colloidal preparation of silver, non-irritant and antiseptic, and for that reason it was injected intravenously. Reports seemed to say it had come up to expectations.

Mr. Shipley joined issue with him on the question of tracheotomy. He still thought it unwise to perform tracheotomy when there was some slight swelling of the face and nose. If, however, there was real necessity through the respiration being affected, then tracheotomy should be performed. He could see it was easy to use Luzol's solution through the tracheal wound, but the effects of a minute puncture were very much less than the large wound necessary for tracheotomy. There was a greater danger in the towns with regard to some of

these wounds than there was in the country and the stables were not so well looked after. In the towns they were more in the hands of the stablemen whose ideas of cleanliness were far removed from one's own. The danger from the tracheotomy wound was far and away greater than from intra-tracheal needle punctures, and that was just the difference between the two methods.

A vote of thanks was unanimously passed to Prof. Wooldridge.

On the motion of Mr. W. Waters, the retiring Hon. Sec. and Treas. (Mr. Sidney Smith, jun.) was thanked for his services during the past year.

ELECTRICITY FOR PATIENTS.

The PRESIDENT handed round for examination a new appliance termed an electro-neurotome for the purpose of administering a mild current of electricity in cases of rheumatism. A dry battery is carried with the appliance which can be very easily used for a period up to fifteen minutes daily. Thus far it had been found that the cases on which it was used had all improved. Only a weak current was advisable and horses did not object to it so much as might have been imagined.

The meeting ended with a vote of thanks to the President.

A. C. HOLL, M.R.C.V.S., Hon. Sec.

LANCASHIRE VETERINARY MEDICAL ASSOCIATION.

(NATIONAL V.M.A.—NORTHERN BRANCH.)

The fifty-second annual meeting was held at the Grand Hotel, Manchester, on Friday, February 20th. The President, G. H. Locke, Esq., in the chair.

Minutes. On the proposal of Mr. Pillers, seconded by Mr. Packman, the minutes of the last annual meeting were taken as read.

Nominations: Elections. Mr. ROBERT ISHERWOOD, Warrington, and Mr. CHARLES WENTWORTH ELAM, Liverpool, were nominated for membership by Mr. Pillers.

The following were unanimously elected members: Messrs. E. H. CURBISHLEY, Alderley Edge, and W. P. RUTHVEN, New Mills, were proposed by Mr. G. H. Locke, seconded by Mr. Brittlebank.

Mr. C. BLACKHURST, Broughton, Preston, proposed by Mr. Packman, seconded by Mr. Brittlebank.

Balance Sheet. Mr. STENT, in presenting the balance sheet, assumed that every member had received a copy. The cash in the bank at the commencement of the year £28 15s. 7d. The year had been rather more expensive than usual inasmuch as five meetings had been held, including a special one, and the affiliation fee to the National V.M.A. was an additional item. There was £17 10s. 9d. outstanding for arrears of subscriptions. The year closed with a deficit of £1 18s. 2d. The number of members showed a slight increase, the number being 94, and he hoped they would soon make this into one hundred.

Mr. TAYLOR, as one of the auditors, moved that the balance sheet, as presented, be adopted. Mr. Packman seconded, and it was carried.

Mr. BRITTLEBANK, in discussing the balance sheet, said the Council felt they would have to consider the financial position of the Association with a view to cutting down expenses. The question of arrears of subscriptions should not occur to the extent it does.

After some discussion as to economising on the item of dinners provided at each meeting, Mr. Brittlebank gave notice of motion of alteration of the rules at the

next meeting. The alterations would be considered by the Council.

WILLIAM HUNTING MEMORIAL FUND.

Mr. TAYLOR whilst feeling somewhat diffident owing to the financial position of the Association, gave notice that he intends to move that a donation be made to the William Hunting Memorial Fund. He regretted to see that so few men in the North had subscribed individually. Mr. Hunting was a bulwark in the profession. There had been no public recognition of his eminent services in veterinary and sanitary science and in public health hygiene during his life, and the least they could do was to perpetuate his memory in some tangible form. Parliament had failed to take cognisance of his abilities and efforts. The veterinary profession held Mr. Hunting in high esteem, and they should see to it that their subscriptions were considerably increased before the fund closed.

PRESIDENTIAL ADDRESS.

Mr. G. H. LOCKE, M.R.C.V.S., Manchester.

Gentlemen,—My first duty on taking the chair is to thank you most sincerely for the honour you have conferred on me by re-electing me your President for the ensuing year. Knowing full well that I follow men of far greater attainments, I feel very diffident, more especially as it is the International year; still, it will always be my earnest desire to further the interests of the Lancashire Association, and so keep up to the high position it holds in the veterinary world.

I rely upon the officers and members for their indulgence and support during my year of office, and wish to place on record my high appreciation of the services rendered by our officers during the past year.

As I have already mentioned we are to be favoured with the International Veterinary Congress being held within our shores this year; the programme has already been published. It is not my purpose to criticise the list of papers, as one must recognise the difficulty in arranging for a conference of such magnitude, but it seems a matter of regret that the ordinary practitioner of this country should be so scantily represented. Surely at a time such as this when our bovine population is becoming increasingly valuable, a section might have been devoted to the consideration of some of those presumably non-specific diseases so commonly met with in every-day practice, and about which much more information is desirable. In passing I should like to mention how pleased the Association is that our worthy Hon. Sec. (Mr. J. W. Brittlebank) has been honoured by an invitation to read a paper on the Public Health question, and, on your behalf, I tender him our heartiest congratulations. I am glad that the response to the appeal for funds has been so far satisfactory, but I understand that the amount required is not yet complete, and I hope that it will not be long before the omission to subscribe, on the part of some of our members, is rectified. It is only reasonable that all ought to take a share, however small, when the honour of their profession is at stake.

Unfortunately we are not supported by our Government as is the case in many other countries, and we ought to feel very proud of the position we hold as a profession, considering we have had no financial assistance. It was very gratifying to read in the recent speech at Crewe by Mr. Runciman, his promise of a scheme whereby financial assistance may be forthcoming for the education of the Veterinary student. He also congratulated the country on its freedom from serious outbreaks of contagious disease, but little credit is given our profession for the part it takes, and has taken, in the control and stamping out of those diseases.

One cannot but view with concern the state of the finances of the R.C.V.S., and hope that every member of the profession will leave no stone unturned to get the Bill now before Parliament, placed on the Statute Book. The future of our profession is so deeply involved in the passing of this measure.

It is pleasing to note the excellent work which is being done at home and abroad by the members of the Army Veterinary Corps, and if only the people responsible would place the question of the supply of remounts under the absolute control of the A.V.C. some proposal of national benefit might accrue.

It was very gratifying to note that two veterinarians were included in the New Year's honours list.

As you are all aware, the newly constituted National Veterinary Association is now an accomplished fact, and has already given evidence of its power to serve the interests of the profession.

There can be no doubt that the profession is undergoing great changes, and, in many ways in the direction of progress, but if we are to obtain the full measure of our deserts our professional motto must be made a real and not a fictitious one. To secure real unity I consider it the duty of every veterinary surgeon, old and young, to join some association such as ours, all of which are now welded under one great central body. One does not know whether to be too pessimistic about the future, for as surely as one field of activity ceases to be lucrative, then another will open, if we are alive to our opportunities.

May I be pardoned in closing in once more reminding those who are not already members of the National Benevolent and Defence Society the advisability of joining as soon as possible; one never knows when its services may be required in either department, and if we are fortunate to never need assistance in any form, it is some consolation to know that we are assisting and doing a little to help our less fortunate brother.

I thank you, gentlemen, for your kind attention, and in conclusion express the hope that you will, by your attendance and support at the meetings, help to make the ensuing year as successful as any previous one.

Mr. McKINNA heartily proposed that the best thanks of the Society be given to the President for his address. Mr. Carter expressed pleasure in seconding, and it was carried with applause.

THE DINNER.

For the second year in succession ladies were invited and were well represented. The attendance of members included the President, Messrs. Carter, McKinna, Taylor, Noël Pillers, Spruell, Packman, Heyes, Noar, Stent, Woods, Wolstenholme, Brittlebank, Clarkson, Garnett.

The visitors included Prof. Bradley, Prof. Delépine, Dr. Niven, the following members of the Manchester City Council: Alderman Jones, Alderman Turnbull, Councillors Kay, Chantler, and Bowie, also S. H. Renshaw, J.P., J. H. Stennett, J. Rowland Albinson, W. Vernon; Messrs. G. W. Carter, F. P. Carter, Taylor, jun., R. Rogers.

Apologies for absence were received from Messrs. Mattinson, Abson, Lawson, Hughes and Sumner.

The PRESIDENT gave the toast "The King," accompanied with musical honours, Madame Conway admirably taking the solo.

The PRESIDENT also gave "The Queen, Queen Alexandra, the Prince of Wales, and other Members of the Royal Family." This toast was loyally responded to.

The next item was a duet "Watchman, what of the night?" which was well rendered by Madame Conway and Mr. Hudson.

Mr. PACKMAN, in giving the toast of "The Imperial Forces," said he understood it to embrace three branches of the Service, namely, the Navy, the Army, and the

Voluntary Forces. The Navy has undoubtedly an untarnished record, and he felt sure he was voicing the earnest desire of everyone present in hoping that nothing would happen in the future to weaken or destroy its glorious history of which every Englishman was justly proud. The second line of defence—the Army—whilst not numerically strong, compared with our continental rivals, they had in the past held their own, and to use a sporting phrase, the light weight has usually come out on top. The science of warfare has made great progress, and in future the enemy would have to be met not only on land and water, but also under water and in the air.

To the third line of defence—our voluntary forces—he thought a deep debt of gratitude was owing. The men gave up their time and leisure for the good of their country. Much was being done to make this branch popular, and he hoped the efforts would be crowned with success. He coupled with the toast the name of Lieut. Heyes.

Mr. Vernon then sang "Songs and Operas in Rag-time."

Mr. HEYES felt some embarrassment in responding on behalf of the Imperial Forces. However, the toast had been proposed in such kindly terms and responded to so generously that he felt it incumbent upon him to thank them on behalf of the Forces, of which he was a humble member. Being a member of the Territorial Force he was, as it were, only a distant relative of the Army and Navy, but he believed the praise bestowed on these two branches was justified.

It is, he said, the ambition of the Territorial Force to come up to the standard of excellence possessed by the Regular Forces. Whilst there were difficulties in the way, they had the right spirit permeating the men, and it was their desire by training to show the young men of to-day how to be of service to the country, and also to better themselves in every way. The veterinary section of the Territorial Force is not very strong, but is improving, and he hoped to see the day when it will compare favourably with the R.A.V.C.

Mr. McKINNA, in the absence of Mr. Sumner, proposed the toast of "The Medical Profession." In doing so he said it was a great honour to propose a toast to a profession to which they owed so much. In the tottering days of the veterinary profession—in its early history, the medical profession came to their aid, both as teachers and examiners. Up to the present the relationship had been most harmonious, and he congratulated Manchester in particular on the goodwill which existed in the city between the two professions.

The medical profession had passed through stirring times during the past year, but they still seemed happy, and he hoped they would become happier in the future. It was gratifying to him to hear his own profession referred to as the sister profession, because each had its own work to do, and there need be no jealousy between them. He coupled with the toast the name of Prof. Delépine.

The song "Glorious Devon" was rendered by Mr. Taylor, jun.

Prof. DELEPINE said it was not always the case that the younger sister was ready to recognise the merits of the elder sister; there is usually a tinge of jealousy, but when the friendship which should exist between sisters is able to overcome that feeling, then the friendship is true. It is well recognised by both professions that it is better to fight together, shoulder to shoulder, than to be standing alone, each wanting to possess more than the other. He would remind them of the way in which some of the distinguished members of the veterinary profession are recognised almost as members of his own profession. To mention only a few such as Chauveau, Nocard, Ostertag, Bang, and M'Fadyean. The way in which these names are used constantly by

the medical profession was sufficient indication of the regard in which they were held. What had been said by Mr. McKinna might be reciprocated. It is true the medical profession had the advantage of age, and also true that they had done their best to help when opportunity arose, sometimes in a selfish way, but, he thought, more often unselfishly.

There are changes taking place in the minds of people in this country; not more than ten or twelve years ago there was a time when a man had passed through the medical curriculum giving him entry into the medical profession, everything had been done both for ordinary practice and other services. At the present time there is an application for an additional Charter in which the Royal College of Veterinary Surgeons applies for powers for post-graduate courses and post-graduate diploma in Veterinary State Medicine. This is an instance where the medical profession has shown its insight into the wants of the veterinary profession, and it is in this part of the kingdom that members of the medical profession have appreciated the need of that special training. It was about ten years ago that a movement was started at the Victoria University, at the instigation of members of the veterinary profession, to provide means of obtaining post-graduate training, and they went further and arranged a course in Veterinary State Medicine with a suitable diploma. This was only one instance which passed through his mind, but was a good example of the way in which the medical profession had closely followed the work in which the veterinary profession was closely interested. They were extremely grateful for the kind way in which their efforts had been interpreted. There is work for each to do, work which could not be done by both.

He thanked them for the handsome way in which the toast had been responded to, and begged to assure them that the medical profession will continue to do its best in foul weather as well as in fine.

A character sketch was next given by Mr. Vernon "Jewish Impersonations."

Mr. PILLERS rose with the greatest pleasure to propose the important toast of "The City of Manchester," but at the same time confessed his inability to properly express his opinion of the high place which the city occupies in commerce, politics and science. As Britishers they could not help but realise the importance of Manchester goods throughout the entire world, and it would be a sorry day for the world at large if an earthquake were to engulf Manchester. As Englishmen they looked upon Manchester as one of the foremost cities of the land, and associated with it men of greatness in all spheres of commercial, scientific, and social life. One need only recall the names of Dalton, Owen, Bright, and Cobden. As Lancashire men we talk of the "Liverpool gentleman" and the "Manchester man," but after all he did not think there could be a ny greater honour than to be called a "man." Our Scotch friends who have come here, never to return, would bear him out when he said "A man's a man for a'that." On his way to that function he saw several times the posters "Manchester goods for Manchester docks." He feared, however, the Scotsman had infringed on that patent, and made it read "Scotsmen for all docks."

As sanitarians, and the veterinary profession claimed to be this, they looked upon Manchester in the most favourable light. Great difficulties have to be overcome in sanitation and in progress, and no town has succeeded in doing this better than Manchester. He would mention her great sewage scheme and the way insanitary areas were dealt with. More particularly was Manchester to be praised for her school for training veterinarians in public health work. Her system of meat inspection is what the veterinarian has always been aiming at, and in the attempt to obtain a pure milk supply she is the pioneer. They sincerely hoped that

when other towns sought advice in these matters, and this must often happen, Manchester will say the best method is to employ properly trained public health veterinary surgeons.

There are a few little things that do not please the veterinary profession, but they would be ungrateful to mention horses and the association of slaughter-houses and meat markets with premises where refuse destruction is carried out.

He had pleasure in associating with the toast the names of Alderman Turnbull (member of the Sanitary Committee), and Councillor Chantler (Deputy Chairman of the Markets Committee).

Mr. Kershaw then sang "The Trumpeter," and for a well deserved encore "I hear you calling me."

Mr. Alderman TURNBULL expressed very special pleasure on his own behalf, and also for his *confrères* on the City Council in being present that night. The proposer of the toast had mentioned a few of Manchester's illustrious men, but there were other illustrious men and women living to-day who have done, and are doing a very great deal towards the prosperity and progress of the city. Amongst others, he would mention Dr. Niven, the esteemed medical officer of health, than whom no man had done more for the improvement of Manchester. Also he would mention Mr. Brittlebank, whose work in connection with a pure milk supply was so very valuable. Prof. Delépine had also, as much as anyone, greatly assisted the city to attain its splendid position in regard to public health matters. Coupled with these gentlemen he would like to mention the veterinary surgeons employed by the Markets Committee in looking after the welfare of the food supply of the citizens. They had need to be proud of Manchester, and, personally, he was proud to state that he had been identified with it for over 60 years.

Manchester has a population of about 800,000, and the turnover in connection with its finances was something like 15½ million pounds. Banking returns showed that Manchester stands ahead of every other great city in the United Kingdom except London, and is quite equal to Liverpool, Leeds, Bradford, and Sheffield put together. This success was, he thought, largely attributable to the Ship Canal.

He thought also that the city tramway system was the finest in the kingdom, and mentioned that last year one hundred thousand pounds was contributed from the profits to the relief of the rates. The Gas Committee, with a progressive and energetic Chairman in Councillor Kay, handed over last year £60,000 in relief of the rates. The Electricity Committee also showed a profit and gave over £24,000, so that taking these facts into consideration they had cause to be proud of their representatives, and of their public men. There were something like 21,000 officials employed, being equal to the population of many a good-sized town; this would give some idea of the enormous amount of work to be done. He thanked them heartily for their reception.

Councillor CHANTLER also responded to the toast. In so doing he regretted the absence of the Lord Mayor, for he was sure they would have had an entertaining speech from him, and as Chairman of the Markets Committee the Lord Mayor would, no doubt have had something to say of the work of that Committee. The Corporation of Manchester fulfilled not only a useful but an indispensable service, and a review of its history would show a record of steady advancement and progress all along the line. Time was when gentlemen of high position in the city occupied seats in the Council, but whilst they could not claim this at present it is nevertheless true that those who are now occupying positions of Aldermen and Councillors are doing their duty manfully, and with a disinterestedness worthy of the highest praise.

The work of the Sanitary Committee and other committees had been referred to, but he wished to speak about the Markets Committee, for it was in connection with this Committee that the veterinary surgeons were most closely identified. He was quite sure that what he was about to say would be acquiesced in so far as Dr. Niven was concerned because he is a professional man, but he (Mr. Chantler) had always thought that the veterinary profession was far too modest a body and did not think enough of itself. Time was when the medical profession as well as the veterinary profession, in days long gone by, were not looked upon with the same favour and not regarded as the absolute necessity they are to-day. The veterinary profession now holds a position second in importance to no other profession in the whole world.

Remembering the Acts of Parliaments which have been passed and which had to be administered by the veterinary profession, he thought he was justified in repeating that the profession was too modest. It would not be a bad thing, he said, if there was to be another kind of Health Insurance Act brought into being. The last Act had stirred up the medical profession to a remarkable extent, and if the veterinary profession had to come up against a similar experience it would awaken them to a sense of their responsibilities.

The Markets Committee of the Manchester Corporation is responsible for the administration of the Diseases of Animals Acts and the Orders of the Board of Agriculture and Fisheries thereunder, and is responsible regarding the sale and exposure for sale of unwholesome meat. For many years past the Committee have acted on the policy of employing veterinary surgeons for the inspection of slaughter-houses, that being consistent with the practice followed by governments or other authorities in the United States, on the Continent, and in our Colonies. In connection with his position on the Markets Committee he had had occasion to go on the Continent and could not help being struck with the large part that the veterinary profession, in one way or another, played in the work of the authorities of the great towns there. His Committee believed that the veterinary surgeon is the man best fitted for this class of work by reason of his training, and following out this policy they are employing five veterinary surgeons, in addition to other inspectors. During recent years the duties have been greatly extended in Manchester, and if time permitted he could give statistics showing the enormous amount of work done by these men.

They recognised the distinction between the veterinary surgeon and the medical practitioner and, without disrespect to the latter, see a distinct difference. One looks after the health of human being and is trained for it, the other is trained for looking after the health of animals. There was a time when they had not these Acts of Parliament relating to diseases of animals, etc., but the position is now entirely changed. The duties of the veterinary profession are of sufficient importance to warrant greater recognition from Government departments, and they ought to have a paid veterinary adviser to the Local Government Board. This is becoming recognised in many large cities who employ veterinary surgeons for the inspection of meat and other food. He took it that the objects of their Association were to strengthen their position as a professional body, and he thought they should look to these Government authorities to advance their position.

He went on to refer to the proposed rebuilding of the Manchester abattoirs, and touched briefly on the number of animals slaughtered yearly, and also the volume of trade in chilled and frozen meat.

Dr. NIVEN, in proposing "The Veterinary Profession," said he first of all desired to thank the Association for the honour in asking him to propose this important

toast, and supposed they did so because of the intimate relations which exist between the medical profession and the veterinary profession. It is impossible for a medical officer of health to carry out many important parts of his work unless he has, as a colleague, a veterinary surgeon who can carry out important duties both clinical and pathological. The fact is that the work of the Public Health veterinarian is inextricably bound up with that of the medical officer of health, and it is impossible for the latter to pursue his inquiries into the causes of disease which afflict human beings unless he has all the knowledge which the best veterinary skill can afford him in arriving at the causes which have brought about these diseases in man. Therefore he thought no greater misfortune could occur to any community than to sever those intimate relations which should exist between a Public Health department and the veterinary service. The fact is that any small feeling there is of jealousy exists only in petty and foolish minds. There is no encroachment on the sphere of any veterinary surgeon *by any medical officer who understands his business*. Their spheres of labour lay entirely apart, and there was quite enough for each to do, but it is necessary that the medical officer of health should have sufficient knowledge of the work that the veterinary surgeon is doing to understand the steps which he takes, and to carry out intelligently the administration depending upon his work, but that is all the encroachment which is, or ought to be necessary. Suppose this relationship is severed, see what happens—the veterinary inspector acts independently and the medical officer has no clue as to the manner in which dangerous material is being distributed in the city and bringing about disease with which he has to deal. It is important that the Public Health department should be in the closest relationship with the veterinary service of the city. He wished to make this quite clear before going on to say that although there may have been little jealousies, the medical profession recognises the growth and usefulness of the veterinary profession, and wishes it well in all its works and ambitions. Both are engaged with the same problems and the same difficulties, whether in practice or in scientific pursuits, with the same prospects of new advances and valuable work still to be done.

He would remind them of the history of the Panama Canal. What would have been the use of all the capital and lavish expenditure in the construction of that canal without the intervention of medical skill. It was entirely medical skill which enabled that work to be carried through, and which saved enormous sums of money. The economic value of proper medical work was very great.

There is the same great prospect opening out in Africa for the work of the veterinary service as the result of their research into the diseases of animals.

He had no doubt, whatever, that the prospect of that great ambition now held up would in a few years be fulfilled. He would ask, "What is it makes the wealth of the community?" It is the health of the individuals. It is the training, health, vigour, and intelligence of each unit. That is why the Germans go ahead—because they are splendidly trained, they have made tremendous efforts, they have been favoured in that their cities are new and well constructed. They have trained young people strenuously and well. Every individual scores a little, and these little add up to large amounts in the great competition of nations. That is where these great efforts in hygiene save wealth. It is not entirely so, but to a large extent. It is the same with the work of the veterinary profession, the higher intelligence of the individual, the more care and skill exercised in dealing with individual animals the more rapidly does the country's wealth in that domain increase. So that he held when one of their members—Mr. Holburn—advocated

the more careful training of the practitioner, that was an expression of opinion which many of them would share. He ventured to say that when that effort is put forth that alone will add greatly to the country's welfare. He thought the wealth of the country is largely made by these two professions. He wished to thank Alderman Turnbull for his kind remarks, and in conclusion had great pleasure in proposing the toast coupling with it the name of Mr. Carter, the President of the R.C.V.S.

Mr. CARTER, wearing his chain of office as President of the R.C.V.S., in response, took the opportunity of expressing his grateful thanks to every member of the Lancashire V.M.A. for the loyal support given to him in the election of Council. After being on the Council some 16 or 17 years, and being so near the presidency, it meant a great deal to him to have the support given which had enabled him to be in the position of addressing them as President. He esteemed the honour, which was not only a personal honour, but an honour to his native town. It was also an honour when he remembered that in a big county like Lancashire there were only four practising veterinary surgeons who had occupied the same position; these were John Lawson, Thomas Greaves, Alex. Lawson, and Sam Locke.

The function of the Royal College is the protection of the privileges of the profession, and the protection of the community against fraudulent quackery, which is, unfortunately, prevalent in our towns. It is also a protection against imposters and usurpers.

The profession of medicine, in which he included human and veterinary medicine, was founded on the highest ideals, and the veterinary profession must live up to those ideals. It rests with them to prove their worthiness in discharging them creditably, and to retain unmarred the great possessions handed down by their forefathers. The training that must now necessarily be gone through is comprehensive, and must in itself be one of the best means of exercising the highest intellectual powers. There is no career and no profession in which theory and practice so harmoniously combine as the practise of medicine. Is it not a fact that in our daily life through the act of practice the mind is kept healthy and vigorous. The progress of medicine and knowledge of surgery in recent years has indeed made rapid strides, and in great measure such progress is due to the investigation and manifestation of diseases in the lower animals, for it is upon a knowledge of the lower animal that the two professions are so dependent for their protective skill.

As Dr. Niven had mentioned, he (Mr. Carter) would like to see a still closer alliance of the two professions whereby they could go on hand-in-hand endeavouring to combat disease in the higher and lower animals alike. Pathology had brought into clear relief the intimate relationship between human and veterinary medicine; bacteriology has more particularly contributed to this end by demonstrating hitherto unsuspected channels of infection. It could thus be plainly seen that it is in the interests of the community, and of the public health in particular, that the two professions should work together, for each had much to learn from the other.

The Royal College were at the present time considering in what way the Fellowship degree could be made more desirable, and it was proposed that the qualification for such a degree after obtaining Membership shall be two years instead of five as formerly. There is also a regulation for a new diploma in Veterinary State Medicine, of which Prof. Delépine had made mention. He could assure Prof. Delépine there is no jealousy in this matter at all. All they wanted to do in the development of this new degree was simply for specialising purposes. This diploma can be taken twelve months after obtaining the Membership diploma. The scheme acts in attracting greater numbers with commensurate

advantages. This has been fully recognised in Germany and other Continental countries, and in America where State aid is generously dealt out for the veterinary schools. Unfortunately this country suffered for that want.

He was convinced that the President of the Board of Agriculture, Mr. Runciman, was kindly disposed to the veterinary profession. Speaking recently before the Farmers' Union, he made an important announcement with regard to the future work of his Committee when he said if a few thousand pounds were spent on the veterinary profession they might stamp out swine fever, thereby saving tens of thousands in compensation. The compensation paid in cases of swine fever amounted to something like fifty or sixty thousand pounds a year. Provision would have to be made for an efficient organised veterinary service, fully equipped for research and administrative work. The result would be a greater freedom from harmful diseases. Speaking with regard to the financial position, he said this was not satisfactory, and such a state of embarrassment should not be, especially in a country which boasts of the excellence of its live stock, and in which stock raising yields two-thirds of the total agricultural revenue. It is the duty of the State to see that adequate provision is made for purging our herds and flocks of disease, as well as safeguarding them from scourges from outside sources.

The veterinary profession is self supporting, and without substantial assistance from the National Exchequer it is not equal to undertaking the public work that belongs to it, and with which they are competent to deal. The Tuberculosis Order, he said, came into operation last May and was, in his opinion, the thin edge of the wedge, and would eventually lead to considerable activity in this disease of tuberculosis.

He wished to refer to the work done in Manchester in regard to the supply of pure milk, and mentioned that in Birmingham there are thirty herds of cattle under the supervision of the Corporation veterinary surgeon. Tuberculin is injected twice a year; the milk supply is pure, and goes to the Infirmary and other public institutions. This is a matter worthy of emulation by all our large cities and towns.

He would urge the necessity of stricter supervision, and it is only right that the veterinary surgeon should be the one appointed to undertake such work.

Mr. Woods proposed "The President." He said that fortunately for him this toast did not require many words, because they all knew the President so well. When a few years ago he advised Mr. Locke that the quickest way to obtain the confidence of his colleagues was to become grey and bald he did not expect his advice to be taken literally.

He knew of no more difficult position in which a young man could be placed than to have to succeed to a large practice carried out by a distinguished father. All at once the advice that he has been used to ceases, the few words of encouragement as to diagnosis and treatment are wanting. It is a time of very considerable anxiety to every young man, for a number of years, to have to undertake such a practice after such a father as Mr. Sam Locke. He was a man of very high ideals, and it is because the members of the Association know that the son is carrying aloft the torch handed on to him by his father that they have asked him two years in succession to act as President.

Mr. Locke, responding, felt at a loss to express his thanks for the kind words of Mr. Woods, and also to the Society for the honour conferred upon him a second time. He felt this to be a greater honour from the fact that the International Congress is to be held in London this year. He would continue to do his best to uphold the honour of the Lancashire V.M.A. In conclusion he desired to thank Mr. Brittlebank for the great assistance rendered.

"Our Guests." Mr. BRITTLEBANK, on rising to propose this toast, said that he always considered that one of the essential qualifications for any secretary was to be seen but not heard too much, but he could not deny the very great pleasure it gave him to submit this toast, particularly when he had to couple with it the name of his old friend Principal Bradley. A gathering such as theirs that evening would be but comparatively poor without the society of their many friends, and on behalf of their Association he thanked all those friends who were present for the great pleasure it had been to see them again at their festive board. The speeches that had been made that evening had reached a very high standard which he could not essay to maintain, but as their Secretary he perhaps might be allowed to depart for a moment from the subject matter of the toast. One of the previous speakers had, in a very laudatory and excellent speech, referred to the fact that in his opinion the veterinary profession was far too modest a body and did not think enough of itself. For his part he thought that a certain measure of modesty was rather to be acclaimed than otherwise, but really analysed, the measure of the so-called modesty of any corporate body was in direct ratio to their power to assert themselves. Unfortunately the veterinary profession was numerically small and financially poor, both collectively and individually, but he could assure the previous speaker that so far as their ambitions were concerned they were unbounded. As a profession they knew quite well what they wanted, and he hoped that they were generally attaining their ends, but he would respectfully suggest that what they required more than advice, is actual material assistance from those who have the power to give it. These remarks he admitted were not strictly in relation to the toast he had to propose, but the Lancashire Veterinary Medical Association, now an integral part of the National Veterinary Association, had in the past, and would in the future continue to do all in their power to advance the interests of their profession.

He would remind all present of the great part which Dr. Bradley had played in carrying through the scheme of federating the various veterinary societies of the country under the National Association. He was sure that it would prove of incalculable benefit to the profession in the years to come. Dr. Bradley had by force of character and the high standard of his work established himself in a high position in the profession, and as an old student at the New Veterinary College he was proud to see him at the head of the Royal (Dick) Veterinary College, an institution which had a great past, but he ventured to say had an even greater future under the wise government of his old friend. He submitted with great pleasure the toast coupled with the name of Dr. Bradley.

Dr. O. CHARNOCK BRADLEY, in responding to the toast of "Our Guests," said that blessings were almost daily being showered upon the veterinary profession by those in high places. Though blessings were highly appreciated, he could not help thinking that veterinary science was something like the field of Emerson's Cape Cod farmer, and stood in need of something more substantial than blessings. Veterinary science was undoubtedly moving, and moving rapidly. The goal was sometimes evident, sometimes hidden, but the fact that mattered was that they were not standing still.

"The Ladies" was proposed by Mr. TAYLOR, whose witty remarks were much enjoyed.

Mr. HOUGHTON replied, and thanked Mr. Taylor for his very kindly remarks. On behalf of the ladies, he wished to say how much they enjoyed being there, and that they sincerely hoped that the practice commenced last year of having the ladies present at their dinner would not be discontinued.

J. W. BRITTLEBANK, Hon. Sec.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.			Anthrax.		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
			Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.		Out-breaks	Slaughtered.
GR. BRITAIN.													
Week ended March 7			24	25	4	33	3	12	67	129	3	64	506
Corresponding week in	{	1913 ...	6	8			4	5	69	131	1	35	327
		1912 ...	33	34			3	16	112	208	7	56	679
		1911 ...	13	15	1	12	3	7			13	42	527
Total for 10 weeks, 1914 ...			191	202	9	64	23	58	815	1555	119	551	5021
Corresponding period in	{	1913 ...	127	141			35	105	817	1767	92	337	3804
		1912 ...	262	291			33	76	1316	3110	129	588	7535
		1911 ...	212	240	1	12	45	171			263	349	3896

(a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked: London 8, Lanark 4. Board of Agriculture and Fisheries, March 10, 1914.

IRELAND.											
Week ended March 7	...	...	27	211	...	...	Outbreaks	...	10	10	44
Corresponding Week in	1913 ...	...	...	...	...	...	1	17	1	...	...
	1912 ...	...	...	...	...	...	1	14	3	31	...
	1911 ...	...	...	...	...	...	3	9	4	102	...
Total for 10 weeks, 1914	...	...	29	239	...	...	25	228	44	268	...
Corresponding period in	1913 ...	...	...	...	...	...	65	184	36	179	...
	1912 ...	1	1	...	...	...	24	181	30	245	...
	1911 ...	3	3	...	...	...	25	178	30	583	...

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, March 9, 1914
 Note.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

Foot-and-Mouth Disease.

The Department of Agriculture and Technical Instruction for Ireland on Sunday night announced that five additional cases of foot-and-mouth disease have been confirmed within the County Cork scheduled district. Two of these have occurred near Cloyne on separate farms in the occupation of one owner. Two others are located near Waterfall and Queenstown respectively, and the remaining case has occurred at Fermoy. All appear to be traceable to the same source as the earlier cases.

Prosecutions under the Tuberculosis Order.

At the County Police Court, Carlisle, on Saturday last, four local farmers were prosecuted for failing to comply with the regulations of the new Tuberculosis Order for Animals.

The first case was that of Thomas W. Wood, Tower Farm, Rickerby, who was charged with having in his possession a cow suffering from tuberculosis of the udder, and failing to give notice to the Local Authority on the 16th February.

Jonathan Scott Bowden, Chief Veterinary Inspector for the County, in his evidence stated that this cow had an indurated udder, the teat of which was slit for the purpose of allowing matter to escape. The lungs were bad, while its temperature was 103.2°. The cow was tuberculous, and this was quite apparent to any observer. On making a post-mortem examination he found that the animal was tuberculous in every internal organ. It seemed to have been suffering from tuberculosis for some six months, and the disease on the udder must have been going on for three months at least.

Cross-examined: This was a dairy cow, and the injury to the udder must have been apparent for three months; since it was in a caseated condition, and such a condition could not develop in a fortnight. Of course, it was quite feasible that the man might have passed it. Mr. Wood never was anything but open in giving information, while all his cows seemed to be well looked after. When he made his examination he thought the animals were well tended. The farmer was not asked to diagnose, but to give information to those who could.

By Mr. Main: I feel confident that the disease must have been apparent for nearly three months. The udder was enlarged, while the shape was all "lopsided," and should have attracted the owner's attention.

By Dr. Barnes: The teat was slit to allow of the escape of the broken down matter, which was evil-smelling.

Robert Craig Robinson, Veterinary Inspector, stated that he examined it and found it diseased with extensive induration of the udder, which was quite patent to the eye of the ordinary observer. The udder was quite deformed. In a post-mortem examination he found the internal organs tuberculous, and in an advanced stage. The carcass was afterwards condemned. This condition of the udder must have taken three months to develop, and was chronic.

By Mr. Main: The defendant would only cut the teat when he found that the animal was suffering.

Similar charges were brought against Jonathan Stalker, Sceughmire, Orton; John Chaplow, Scotby Shields; and John Henderson, Crookdyke, Rockliffe.

The fines and costs were as follows:—Wood, £8 5s. 8d.; Chaplow, £7 12s. 6d.; Henderson, £8 6s. 6d.; and Stalker, £3 13s. 6d. The total for the four cases was £25 18s. 2d.—*Carlisle Journal*.

DISEASES OF ANIMALS ACTS, 1894 TO 1911.

Return showing the number of Premises on which the existence of TUBERCULOSIS has been notified to the Board of Agriculture and Fisheries during the month of February, 1914.

ENGLAND (Counties) *		ENGLAND (continued) *	
Bedford	5 5	Westmoreland	2 2
Berks	1 1	Wilts	30 30
Buckingham	1 1	Worcester	4 4
Cambridge	2 2	York, East R.	4 4
Isle of Ely	1 1	" North R.	7 7
Chester	23 24	" West R.	21 23
Cornwall	7 7	WALES.	
Cumberland	2 2	Anglesey	9 10
Derby	16 16	Brecon	1 1
Devon	6 9	Carmarthen	1 1
Dorset	4 4	Carnarvon	1 1
Durham	11 11	Flint	1 1
Essex	3 3	Merioneth	1 1
Gloucester	6 8	SCOTLAND.	
Hants	2 2	Aberdeen	10 10
Hereford	2 3	Argyll	7 9
Hertford	7 13	Ayr	8 9
Huntingdon	4 4	Berwick	3 3
Kent	7 7	Dumbarton	1 1
Lancaster	44 45	Dumfries	2 2
Leicester	2 2	Fife	4 4
Lincoln, Holland	3 3	Forfar	5 5
" Kesteven	10 10	Haddington	2 2
" Lindsey	6 6	Kincaidine	5 5
London	1 2	Kirkcudbright	6 7
Middlesex	1 1	Lanark	13 13
Norfolk	2 2	Linlithgow	1 1
Northampton	4 4	Midlothian	
Northumberland	4 4	(ex City of Edin.):	2 2
Notts	9 9	City of Edin.	3 3
Salop	8 8	Perth	12 13
Somerset	8 8	Renfrew	2 2
Stafford	18 18	Ross & Cromarty	1 1
Suffolk	1 1	Roxburgh	2 2
Surrey	6 7	Stirling	1 1
Sussex, East	8 10	Wigtown	4 4
" West	6 6		
Warwick	8 9		
		TOTALS	435 462

* Number of bovine animals suffering from tuberculosis of the udder, tuberculosis with emaciation, or giving tuberculous milk, in respect of which notice of intention to slaughter has been received.

Rabies in India.

Bangalore, Jan. 26.

Corporal Gardiner, 44th Field Battery, who recently arrived here from Bellary, died at the station hospital last night of hydrophobia contracted, it is presumed, from the bite of his pet monkey which had been bitten by a mad dog at Bellary six months ago. Nineteen other men of the same Battery who were bitten by the same monkey were despatched to the Pasteur Institute, Coonoor, last night.

In addition to the nineteen men of the 44th Battery, fifteen others, medical officers and men, who dealt with the late Corporal Gardiner during his illness are leaving to-night for the Pasteur Institute. The deceased soldier showed symptoms of hydrophobia early on Saturday morning in barracks, and was removed to hospital where the spasms became more frequent and increasingly severe. A specialist was summoned from Poona, who performed tracheotomy. Chloroform was also administered to relieve the spasms, followed up by oxygen, but the remedies failed.—*The Statesman* (Calcutta.)

The Register R.C.V.S., 1914.

The new edition contains the revised Bye-laws as passed by the Council last year, together with the draft Regulations for the proposed new Diploma in Veterinary State Medicine, and the new Regulations for the Fellowship Degree (p. 79), also the revised Syllabus for the Professional Examinations (p. 87).

In addition to the extracts from Acts and Orders published in previous editions, the Tuberculosis Order, 1913, is given—a very useful addition for country practitioners.

Among minor improvements are noted a list of abbreviations employed in the Register of Members (p. 130) and the list of "Existing Practitioners" (p. 371) has been reset in a more readable form. The number of the latter is reduced from 218 to 188—the most marked reduction for several years past. The number of members has fallen from 3441 to 3408. This represents a total reduction of registered veterinary surgeons of 63.

As in previous issues, the Registrar calls attention to the fact that 24 members have omitted to supply him with their change of address. A list of the delinquents is given at p. 309, with the warning that their names will be removed unless their address is received before the end of the year.

The book contains, as in recent issues, Calendar, Acts, Charters, Lists of Officers, Council, Examiners, Fellows, Honorary Associates, and Members; and in appendices, lists of schools, prizes, examination questions, regulations for admission to the Government services, annual report, 1913.

Price 3s. 6d. post free from the offices of the College.

Cossack Horses.

Cossack horses of a good type are bred in large numbers—and the work of breeding them seems to pay—in the district of Turkistan, and they are extensively used for military purposes. History affirms that they originate from the wild Tartary horses "found in countless thousands on the edges of vast deserts." Some mares of this class have lately been bought for Germany, and will probably be put to thoroughbred sires; it is hoped to obtain as the result horses suitable for the light cavalry, possessing some speed and great stamina, whilst being as tough and game as were their wild, unshod progenitors. Also imported into Germany is a Turkoman sire that has never been shod. His hoofs are described as never having needed protection of any kind, being naturally as hard as iron.

One of the most noted experimental animal breeders in Russia is M. Falz-Fein, who has an enormous estate, where he produces some extraordinary results. He has immense numbers of horses, cattle, camels, antelopes, sheep, zebras, and, in fact, almost every animal that can be crossed for the purpose of investigation and study, the object being to discover what can be usefully done in that way.—*Live Stock Journal*.

The American V.M.A. and the International Congress.

Our cousins across the water are making arrangements for an Official Tour of Europe in connection with the Congress, and have issued an attractive itinerary.

The tour leaves New York June 13th: arrives New York August 22nd.

The Committee consists of Dr. L. VAN ES, Fargo North Dakota; Dr. ALEX. LIAUTARD, Paris; Dr. J. R. MOHLER, Washington, District of Columbia; Dr. V. A.,

MOORE, Ithaca, New York; Dr. W. H. DALRYMPLE, Baton Rouge, Louisiana; Dr. PAUL FISCHER, Columbus Ohio. Under the direction of Dr. ADOLPH EICHORN.

The management is in the hands of the Bureau of University Travel, Boston, Mass.

The circular says: "The fiftieth anniversary of the first International Veterinary Congress is to meet in London during the coming summer. A special effort is being made to furnish a program replete with the best in possession of the veterinary profession and make it a fitting semi-centennial of fifty years of progress. American veterinarians should make every possible effort to attend this meeting. It is very probable that the American Veterinary Association will not hold its regular annual meeting in September, as has been the custom the past few years, but it will probably meet in New Orleans during the week of the holidays. This will give the members an especial opportunity for attending both meetings." It is signed by C. J. MARSHALL, President American V.M.A.

The party is timed to leave New York June 13, arrive Antwerp June 22. Where more than one day is to be spent we have indicated by figures.

BRUSSELS (2 days), Veterinary College and municipal abattoirs. Experimental Station and Agricultural School of Gembloux the largest and best in Belgium; PARIS (4), The famous Veterinary School at Alfort. The Pasteur Institute and laboratories. Abattoirs and stockyards of La Villette; VERSAILLES; BERN (2), Serum Institute of Bern, City sights; INTERLAKEN; LUCERNE RIGI; ZURICH, Veterinary College, City abattoir; ST. GOTHARD PASS; MILAN (2), Veterinary College, and abattoirs; VENICE; FIUME; MEZÖHEGYES, One of the best government breeding farms of thoroughbred stock in the world; BUDAPEST (2), Municipal abattoirs, Veterinary College, Hog Cholera Serum Institute; KISBERBARBOLNA, Highest type of Hungarian livestock; VIENNA (3), Veterinary College, Hygienic Institute, Abattoirs and stockyards; DRESDEN (3), Finest municipal abattoirs and stockyards in the world, Veterinary College; LEIPSI, Veterinary Institute under direction of Prof. Eber, abattoir and stockyard; BERLIN (4), Veterinary College, abattoirs and stockyards, German Serum Society, Imperial Board of Health Laboratories at Gross Lichterfelde; HANNOVER, Veterinary College, abattoirs and stockyards; UTRECHT (2), Veterinary College and University; AMSTERDAM; ROTTERDAM, Government Serum Institute; LEYDEN, Abattoir and Holstein cattle; CAMBRIDGE; LONDON (6), The International Veterinary Congress; EDINBURGH (2) Veterinary College; THE TROSSACHS; GLASGOW, Municipal abattoirs and stockyards; LIVERPOOL; BOSTON.

The price of the tour is 595 dols.

Special sight-seeing programs will be arranged in the cities visited for the entertainment of the ladies of the party.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, March 6.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

T. A. B. Cocksedge to be Lieut. Dated Jan. 7.

March 10.

REGULAR FORCES. ARMY VETERINARY CORPS.

Capt. A. Olver to be Major. Dated March 7.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Lieut. C. E. Neill to be Capt. Dated Feb. 12.

Hunting Memorial Fund.

Subscriptions received up to 7 p.m., March 11th, 1914

	£	s.	d.
Amount previously acknowledged	254	16	6
Mr. R. Eaglesham, 31 South Wharf Rd., w.	1	1	0
John Brown (F), Invergordon	1	1	0
A. R. Routledge (F), Louth, Lincs.	2	2	0
Walter L. Harrison (F), 17 Anchor Terrace, Southwark Bridge Road	1	1	0
Joseph Temple, Aberaman, Aberdare.	1	1	0
John Holland, Model Farm, Athy	10	6	
Wm. Jackson Young, Board of Agric.	1	1	0
Prof. Shave, Royal Vety. College, n.w.	1	1	0
Mr. R. C. Trigger (F), J.P., Newcastle, Staffs.	1	1	0
G. McCall, g.v.s., Union Dept. of Agric., Nylstroom, S. Africa	1	0	0
F. J. Dunning, g.v.s., Union Dept. of Agric., Transvaal	10	6	

£266 6 6

HENRY GRAY, Hon. Sec. & Treas.

23 Upper Phillimore Place, London, W.

Cheques endorsed "Hunting Memorial Fund" and crossed "The London, City and Midland Bank, Ltd

OBITUARY

WM. JAS. WATT, M.R.C.V.S., 21 Lillie Rd., London, s.w. Graduated, Lond: July, 1897.

Mr. Watt died suddenly on Friday, 6th inst., at his residence. Aged 45 years.

Also, Eleanor Aelthea, wife of the above, on 10th inst

MR. MOND ON TUBERCULOSIS IN COWS.

Dear Sir,

Your condemnation of Mr. Mond for expressing his views on tuberculosis, leaves out of account the fact that it has never yet been definitely proved that any human being has been infected by the consumption of cow's milk; that it is difficult to infect bovines with human bacilli; that the experiments by subcutaneous, intra-venous and intra-peritoneal injection of vast quantities of virulent sputum often failed; that some subjects were poisoned but not infected with tuberculosis; that some lesions proved retrogressive although this virulent material was employed, and that none were infected by natural means.

Neither Koch nor anyone else who has studied the subject would say that a dentition abrasion in an infant's mouth might not afford an entrance for a stray bacillus, but what are the chances? Surely the available statistics give the answer! I do not think it will be denied that three times as much cows milk is consumed by infants to-day as was taken by a previous generation whose mothers recognised their duty, and it cannot be denied that the returns of deaths from tuberculosis have fallen by fifty per cent. If the cow, as often asserted without any evidence whatever, is the chief cause of tuberculosis in human beings, then we ought to have three times as many cases, instead of fifty per cent. less.

HAROLD LEENEY,

[Quite so. But apparently we differ from Mr. Leeney as to the suitability of such statements to the audience at Knutsford.]

ERRATA, pp. 486: 487.

On page 486, 2nd column, first sentence under "Sarcopic Mange in the Dog," in smaller type, 3rd line, Acariasis should read *Otacariasis*.

On page 487, 1st col., under Sarcopic Notodres, 15th line, in the sentence, The eggs are '1 m.m. long and 0.7 mm. broad, should read '0.7 mm. broad.

On page 487, 2nd col., 21st line, "Over these areas the skin," should read *the coat*.

On page 487, 2nd col., under "Development of the Sarcopes," in line 12, "vary from 19 to 40," should read 10 to 40.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1341.

MARCH 21, 1914.

VOL. XXVI.

TOXICOLOGY.

The profession could do with more such papers as that upon castor seed poisoning which Prof. Lander has just given to the Central Society. In itself, the paper adds a little to our knowledge of one poison. More than that, it may induce practitioners to take an increased interest in toxicology. Some are perhaps disposed to neglect it, but there are not many subjects which better deserve attention from clinicians.

Prof. Lander said "Although recorded cases in the veterinary literature are very few, cases of castor seed poisoning may, and do, occur from time to time." The words might be applied with equal truth to a great many other vegetable poisons, and some mineral ones. We all know the diagnostic difficulties which so frequently attend cases of poisoning in practice—difficulties chiefly arising from the indistinctive character of the symptoms. In most cases the symptoms, however acute they may be, do not conclusively indicate poisoning at all, and usually they do not even suggest the exact poison concerned. Unless there are some circumstances in the case which arouse and support suspicion, it is quite possible for either accidental or malicious poisoning to occur unrecognised; and it is probable that both do so occur more frequently than we suppose.

Considering these difficulties, and the great variety of substances that may be toxic to animals, it is clear that no clinician can hope to ever attain more than a comparatively fragmentary and imperfect knowledge of toxicology for guidance in his practice.

The subject will always include some of the most difficult cases met with in our everyday work, and therefore a toxicological paper by an expert cannot fail to be helpful. For obvious reasons, such papers seldom excite brisk discussion, but that does not detract from their special value.

THE SUPPLY OF VETERINARY PRACTITIONERS.

There are now only 3408 members on our Register. How many of them are engaged in independent private practice in this kingdom? Probably no one could answer the question exactly, but a little thought suggests that the number must be surprisingly small. Some hundreds are abroad. Many at home are in the public services, or retained by various bodies; some are assistants; and some not in practice at all. A careful analysis of the Register, if it could be made, might indicate that the national supply of private practitioners is already beginning to fall short of the demand.

LUNG PUNCTURE IN PULMONARY TUBERCULOSIS AN AID TO DIAGNOSIS.

The more methods the clinician can bring to his assistance, speaking generally, the better is he in a position to eliminate the risk of error, the result being a more accurate diagnosis.

In pulmonary tuberculosis to obtain a positive diagnosis the tubercle bacilli must be identified. This, as we all know, in some cases is not an easy matter owing to the fact that the *materies morbi* is not always obtainable through the usual channels, and in addition, when it is obtained, it runs the risk of becoming contaminated with other alien acid-fast bacteria which simulate in appearance Koch's bacillus, thereby tending to lead to errors in diagnosis. Realising these difficulties in dealing with non-expectorating animals it occurred to me that it might be expedient to aspirate the *materies morbi* from the lung directly through the chest wall. In this way an excellent method is adopted to detain the germ-laden material which has had the risk of contamination, by acid-fast bacteria, reduced to a minimum. It is scarcely necessary, however, to point out that the same difficulty is here encountered which one meets with in collecting material from other organs, *i.e.* the bacilli may be so few in number as to escape the most diligent microscopical investigation, or they may be absent from that particular collection altogether.

Centrifugalising the material will facilitate the demonstration of the bacilli in the former instance, while in the latter several lung punctures may be carried out in the same subject at the same time.

Modus operandi. A careful physical examination (auscultation and percussion) should be made of the most prominently diseased area and located. The hair should be clipped over this region and the skin well scrubbed with strong tincture of iodine. At the point of entrance of the needle a drop of pure lysol is now applied. The animal is then caught by the nose and horns and held by an attendant. Five to ten cc. of sterile broth or water is taken up and the needle of the aspirator then plunged boldly into the lung parenchyma between the ribs, taking care the seat of puncture is as far removed from the posterior border of the rib as possible, the object being to evade injury of the intercostal artery and vein. The needle having been driven home the fluid is now steadily injected, and after the elapse of about a minute, aspirated. It is impossible to abstract all the fluid which has been injected, nor is this even necessary. The needle may have penetrated a small bronchi or pulmonary vessel, either of which are capable drainage channels. If it

enters a purulent infective cyst and the pus is fairly liquid, little or none of the infected fluid is here aspirated, the aspirate being almost entirely composed of the morbid material.

If a pulmonary blood vessel has been struck, the collection may be made up wholly of blood which will offer, as a rule, in itself a small chance of contributing to an accurate diagnosis. This should be discarded, and another area explored. In other cases the aspirate medium may present a sero-sanguinous appearance, while held in suspension, is often found lung *debris*. In some instances the lung tissues appear to block the point of the needle, thwarting all aspiratory efforts. Simple rotation of the needle will sometimes overcome this difficulty; should this fail, however, I do not hesitate to move the needle laterally with the view of breaking down part of the lung structure, and re-aspirate. The material thus collected should then be centrifugalised in fine tapering tubes, and stained by carbol fuchsin, etc., in the usual way.

Case I.—A shorthorn cow suffering from catarrhal pneumonia, had three punctures, two in the left and one in the right lung, and the three resultant fluids mixed, centrifugalised and examined. Tubercle bacilli were found, the field showing three small collections and two distinct isolated bacilli.

Case II.—Shorthorn cow, recently calved, showing pneumonic symptoms. An area of dullness in the lower third of the right lung was detected, and a puncture was made between the 8th and 9th ribs and about 10 c.c. of thick pus aspirated. From this I was able to demonstrate a fair number of tubercle bacilli.

Case III.—Devon steer, two years old, in good condition but suffering from a more or less persistent cough and emphysematous respiration. An area of dullness was detected on the right lung, and aspiration produced a sanguino-purulent material. From this no tubercle bacilli were detected. Seven days later lung puncture was again performed, 5 c.c. were again aspirated two inches from the seat of the original puncture, while the left lung, showing a distinct rhoncus, was punctured and material collected. The two collections mixed, centrifugalised, and specimen stained, when examined revealed the presence of many tubercle bacilli.

Case IV.—Devon bull, with persistent cough and showing symptoms of broncho-pneumonia. Four punctures were made, two in each lung, but no morbid material could be aspirated. I presume the needle was too short, necessitating the procuring of a longer needle.

Some few days later a puncture on each lung was made, a semi-sanguinous fluid, somewhat chocolate looking in colour, with solid lung particles in suspension was aspirated, the fluid treated in the usual way, and although four smears were made the results were negative.

Case V.—Shorthorn cow, with a healthy history and in good condition, had calved four days previously, and was suffering from septic retention of the afterbirth. This was removed and the womb irrigated. Two days later pronounced pneumonic

symptoms set in, probably due to septic infection. Two punctures in each lung were performed, with the result that a sanguinous brown-looking aspirate was obtained. From this three slides were examined with negative results. The animal died three days later. A post-mortem examination was made, the mediastinal and prepectoral glands were enormously enlarged and caseating. Scrapings from these revealed the tubercle bacilli in great abundance.

CONCLUSIONS.

I consider lung puncture is a most valuable aid to the diagnosis of pulmonary tuberculosis. It is a simple operation, and if carried out with antiseptic precautions, carries with it no risky sequelæ. I have, in addition to the cases above related, punctured the lungs of 12 equines and four bovines without any untoward results. In the case of one horse I have made nine punctures in 24 hours, all of these with the object of making vaccines.

In the five cases recorded here, each animal was in good condition, and in the first three cases where a positive diagnosis was made, there were pronounced pulmonary symptoms, none of which, however, the most experienced clinician could interpret as belonging specially to tuberculosis. I therefore consider lung puncture a valuable asset in obscure and non-suspicious cases, as well as in those showing pronounced tubercular symptoms and lesions. Needless to add, the aspirator must be sterilised before use. I prefer the injection of broth to that of water, the former has more consistency, and if a bacterial culture is required, an excellent nutrient medium is at once obtained. When the puncture is performed for diagnostic purposes only, sterile water does quite well. In both cases the fluid media should be raised to blood heat before injection.

From post-mortems I have made, I have noted that the entrance of the needle through the parietal and visceral pleura is indicated by a small scar, without any signs of a radiating pleurisy or even adhesions.

In the lungs I have seen at the seat of puncture sometimes a small blood clot, and a slight diffused discolouration of the tissues where the fluid media has penetrated, but beyond these there is nothing to show the lung tissue had been tampered with from without.

WM. SCOTT, F.R.C.V.S., F.R.M.S.

Bridgwater.

ABSTRACTS FROM FOREIGN JOURNALS

AUTO-SERO-THERAPY IN VETERINARY OPHTHALMOLOGY.

Pruneau, an Army veterinary surgeon, has published (*Recueil de Méd. Vét. d'Alfort*) an article upon this subject. He has seen auto-sero-therapy applied with very good results in cases of iritis and phlyctenular kerato-conjunctivitis in human ophthalmology, and therefore tried it in a case of specific ophthalmia in a horse, with most successful results.

The affected horse had violent conjunctivitis and photophobia. Lachrymation and hypotonus were present. The anterior chamber of the eye was opaque, and contained a fairly abundant collection of pus. The iris was opaque and dull, the ciliary region was sensitive, and the background of the eye could not be illuminated.

The horse received a first injection of 3 c.c. of serum. Twenty-four hours later there was no more lachrymation, the photophobia had almost wholly disappeared, and it was possible to illuminate the background of the eye. The pupil was still opaque and somewhat suffused, but the vessels proceeding from it were distinctly visible. The day after this (thus two days after the first dose) the horse received a second 3 c.c. of serum. Two days later he appeared cured, the pus in the anterior chamber of the eye was insignificant, the iris reacted to light and became dilated upon the injection of cocaine, so that it could be seen that no synechia were present.

The author has also applied this treatment in the case of another horse, suffering from pseudo-membranous conjunctivitis. Complete recovery was obtained after two days.

The technique of the treatment is as follows:—

(1) Blood is withdrawn from a superficial vessel by means of a 20 c.c. hypodermic syringe, and is placed in a small wide-necked flask which has previously been subjected to dry sterilisation and hermetically sealed. The flask is then put into a dry place.

(2) Twelve hours after the withdrawal of the blood, it has coagulated and a quantity of serum sufficient for the treatment has exuded from the coagulum. It is better, however, to postpone treatment until twenty-four hours have elapsed. About 3 c.c. to 4 c.c. of the serum is then drawn up with an aseptic syringe, and the flask is closed very carefully. The flask can then be kept for another three or four days in a cool place.

(3) The affected eye is anaesthetised with five or six drops of a sterilised 4 per cent. solution of cocaine, and then washed with lukewarm sterilised physiological salt solution.

Whether the injection can be undertaken upon the standing animal or whether casting is necessary depends upon the degree of the horse's irritability and the perfection of the anaesthesia which has been attained.

(4) The upper eyelid is drawn well upwards: and the needle of the syringe is inserted under the conjunctiva of the eyeball, as far as possible from the edge of the cornea. About 3 c.c. of serum is then injected quite slowly. The resultant oedematous swelling is absorbed in twelve hours at the latest.

(5) The needle is withdrawn by a sudden movement, and the eye is washed with physiological salt solution. A second injection may quite well be given twenty-four hours after the first one.—*Berl. Tier. Woch.*

[The technique of this treatment should be well within the powers of most practitioners.—*Transl.*

MELANOTIC SARCOMA OF A DIGIT WITH CUTANEOUS AND POLYVISCERAL METASTASES IN A DOG.

Samson records (*Journal de Méd. Vét. et de Zoot.*) the case of a dog, five years old, which suddenly became very lame on the left fore limb, and at the same time showed a very distinct tumefaction of the extremity of the internal digit of the same limb. This was treated by baths, poultices, and by point-firing the swelling. The condition became worse, and four months later the animal was walking upon three legs. He suffered a good deal, and lost flesh daily. By that time the internal digit was very inflamed; and its extremity bore a swelling the size of a nut, which was black, malignant-looking, and pierced at its centre by a suppurating cavity.

Samson advised removal of the digit, and the operation was performed with complete success. The resultant wound healed in about a fortnight, and the bearing of the limb soon became normal. The dog, therefore, seemed to be cured.

Eight months later, he was again brought for examination. His intervening history had been good; but he now showed a tumour the size of the fist, uniformly hard and insensitive, situated at the base of the neck in front of the left shoulder, immediately at the entrance of the thorax. This was subjected to both internal and external treatment with iodine. About a fortnight later, the tumour had softened at one point. This was punctured, giving exit to a very abundant black pus. After the wound was cleansed, an examination of its interior showed a mammilated, filamentous, and perfectly black tumour.

Antiseptic treatment did not cause the abscess to close. The tumour augmented in volume, and others appeared at various points—upon the skin, in the region of the right flank, and in the muscles of the abdominal wall. Evidently the case was one of a melanotic tumour undergoing generalisation.

The dog now again lost condition, became dull, completely lost his appetite. Despite treatment by digitalis, iodides, and electrargol, he became worse, and it was finally decided to destroy him.

Post-mortem, it was found that the generalisation of the tumour was very advanced. All the organs were invaded, except the liver.

Histological examination of the metastatic growths, carried out by Prof. Ball, showed that the tumour was a sarcoma of mixed round and spindle celled type.—(*Annales de Méd. Vét.*)

HÆMORRHOIDS IN A HORSE.

Michael Schmidt, a Hungarian veterinary surgeon, records (*Allatorvosi Lapok*) the case of a nine-year-old brown gelding to which he was called. The history was that during defecation the horse groaned painfully, and at the same time a large swelling protruded from the rectum. The faeces were often covered with bloody mucus.

Upon manual exploration, the author discovered a jelly-like warm swelling the size of an apple on the dorsal wall of the rectum. After the administration of a clyster, the swelling was extruded from

the rectum with the ejected water; and it was seen that its surface was dark red, and showed various lacerations and granulations.

The swelling was ligatured with catgut, and laxatives and green food were ordered. On this treatment the horse made a complete recovery.

Such varicose swellings of the rectal wall are rarer in animals than in man, in consequence of the different position, which makes circulatory stasis less common in animals than in man.—(*Berliner Tier. Woch.*)

THE CANINE PIROPLASMOSES OF EUROPE AND AFRICA.

Laveran and Nattan-Larier report (*Annales de l'Institut Pasteur*) the results they have obtained in the comparative inoculation with virus of canine piroplasmoses of French and African origin. They conclude that the two diseases produced are identical; and no means of differentiating between them exists either in their symptoms, their lesions, or their evolution. It can only be said that the African virus is more active than the French one; because the African virus destroyed 17 dogs out of 19 inoculated with it, while only 15 dogs died out of 23 inoculated with the French virus. No difference exists in the morphology of the two piroplasms.

On the other hand, a study of the resistance which dogs which have been immunised against one parasite offer against the other, shows distinct differences. Seven dogs which had been immunised against the French piroplasm all became infected when inoculated with the African one, and six of them died. Two dogs which had been immunised against the African piroplasm were infected by the French one; but the infection was only slight, and both animals recovered.

The authors therefore conclude that *Piroplasma canis* of Europe and *P. canis* of Africa, are, if not two distinct species, at least two clearly distinct varieties.—(*Annales de Méd. Vét.*)

W. R. C.

YORKSHIRE VETERINARY MEDICAL SOCIETY. [NATIONAL V.M.A.—NORTHERN BRANCH].

The annual meeting was held at the Hotel Metropole, Leeds, on Friday, the 30th January, at 4 p.m. Mr. McKinna, of Huddersfield, took the chair in the unavoidable absence through illness of Mr. J. Abson, the President, and the following members were present:—Messrs. S. Wharam, A. W. Mason, H. G. Bowes, and A. McCarmick, Leeds; Geo. Whitehead, Batley; P. Deighton, Selby; H. M. Holland, Keighley; H. Pollard, Wakefield; Percy Abson, Doncaster; J. A. Hodgman, Barnsley; W. Edmondson, Harrogate; C. Pitts, Bradford; F. W. Pawlett, York; J. W. Lazenby, Tadcaster; and J. Clarkson, Hon. Sec., Garforth.

Visitors: Messrs. F. W. Garnett, Windermere; Percy Carter, Bradford; J. H. Carter, Burnley; and Prof. O. C. Bradley, Edinburgh.

The minutes of the previous meeting were taken as read.

On the proposition of the Chairman, seconded by Mr. Wharam, it was decided to send a telegram of sympathy

to the absent President, sympathising with him in his relapse and expressing the meeting's sincere wishes for his speedy recovery.

The SECRETARY stated that a communication had been received from the Sanitary Institute regarding the next Congress to be held at Blackpool in July, and asking whether the Society would join the Congress.

The CHAIRMAN pointed out that their own International Congress would shortly be held, and that of course would overshadow all other matters in the near future.

After some discussion the matter was dropped, and no motion was proposed.

The SECRETARY stated he had received a postcard from Mr. Pratt who had been very seriously ill for some six months past, to the effect that he was better. Mr. Pratt, continued the Secretary, was one of the original founders of the Society, he had presented them with a unique set of pathological specimens and horse-shoes, and was generally held in considerable esteem by the profession. He thought every one present would be very glad to hear of Mr. Pratt's improvement in health.

Mr. S. WHARAM asked why the present meeting was not held in the usual room of the hotel where Mr. Pratt's specimens were exhibited. It was explained the reason was that it was thought that room was not large enough for the annual meeting.

Messrs. S. B. VINE, Settle; P. THEXTON, Pontefract; and E. J. NICHOLSON, Bridlington, were elected as members of the Society on the proposition of the Chairman, seconded by Mr. H. G. Bowes, the latter stating that he had known Mr. Nicholson as a student and felt he would make an excellent member of the Society.

The CHAIRMAN referred to the recent loss the Society has sustained in its list of Honorary Associates through the death of Mr. Hunting, and submitted the names of Dr. Bradley of the Royal Dick College of Glasgow, and Mr. Garnett of Windermere, for enrolment on the Honorary Associates list. With reference to Dr. Bradley, he said that when they took into account his work on comparative anatomy and the work he had done for the profession as a whole, they must feel they were not only honouring him by asking him to allow his name to be enrolled on the list of Associates, but they were also honouring themselves by so doing. Mr. Garnett also was a distinguished member of the profession, and had done a large amount of work in the Council in that thorough manner that characterised everything he took in hand.

The SECRETARY said he wished to associate himself with the remarks of the Chairman. In Dr. Bradley and Mr. Garnett they had two men who were fully entitled to any honour that any society might wish to confer upon them. Mr. Garnett was, he thought he might say, the worker of the profession as regards scientific work, in which he had accomplished a large amount of original research; and everybody knew or should know of the time and labour he had expended in connection with the Council, and in particular with the Parliamentary Committee. At the time of Mr. Garnett's election to that Committee it had held no meeting for something like seven years, but Mr. Garnett had raised it from that position to be the most important Committee of the Council. Dr. Bradley had also done a great amount of work in connection with the amalgamation of the various societies into the National Society.

On being put from the chair the motion was carried unanimously.

Mr. GARNETT briefly thanked the members for the honour conferred upon him, and assured them that any work he had done had been performed simply for the love he entertained for the profession itself.

REPORT OF THE COUNCIL.

The SECRETARY stated that at the last meeting the matter as to the day on which ordinary meetings should be held, after being fully discussed, was put to the vote, with the result that eleven members voted for Friday as the day for holding the meetings, seven for Thursday, and one for Monday. The question was afterwards referred to the Council for consideration, but that body came to the conclusion that it would be inadvisable to change the day, as, if any change were made, the effect might be that more members might find it difficult to attend than was the case at the present time. The recommendation of the Council therefore was that the pay should not be changed.

THE HUNTING FUND.

The CHAIRMAN introduced the question of the the Memorial Fund which was being raised in remembrance of the late Mr. Hunting, than whom no man, he said, since the profession was instituted had better deserved its gratitude. The Council had recommended that a sum of three guineas should be voted to this purpose, and he wished to know if the meeting endorsed that recommendation. [The sum of three guineas was voted to the fund].

INTERESTING CASES.

Mr. H. M. HOLLAND, of Keighley, exhibited a preserved specimen of a large testicle which he had taken from the abdomen of a dog six months ago. When called in to attend the case he thought the dog—a bull dog of the Rodney Stone strain—was suffering from dropsy, and was informed by the owner that whenever the dog made water, he either just previously or just afterwards ejected a small amount of pus-like matter.

The dog was about 2½ years old, but had only had one testicle present in the scrotum during life, and this was a very small one, no bigger than an ordinary filbert nut. He (Mr. Holland) endeavoured to get some fluid away, but was only able to get about a gill; he then felt the presence of the body more distinctly in the abdomen. He thereupon advised the owner to have the animal destroyed, considering it a case of a malignant growth. The dog died, however, before the owner gave him permission to destroy it, and when a post-mortem was made the enlarged testicle which weighed two or three pounds was found in the abdomen. The specimen showed just one half of the testicle. The cysts were full of a gelatinous matter.

The specimen was handed round for inspection, and the Chairman characterised it as a most interesting and remarkable case.

Mr. P. DEIGHTON, of Selby, gave an account of a valuable hunter he had attended for laryngitis whose temperature when he was called in was 106°. During his treatment of the animal, which lasted two or three weeks, there was the greatest difficulty in getting any medicine into the horse at all. As soon as his head was up he began to cough and a ball could not be given. After three weeks treatment, Mr. Deighton called in the services of Mr. Mason of Leeds, but when the latter went to see the horse it was improving, was out, and progressing very well. Mr. Mason suggested blistering the horse's larynx, with the idea of preventing his being a "roarer" after the illness. That was on the Wednesday; on the following Sunday, however, the horse began with colic, and when Mr. Deighton went to see him he was in a very bad state, rolling about, with a temperature of 105°. After spending a long time with the animal endeavouring to relieve its pain, Mr. Deighton left him for about an hour, and when he returned he found what he characterised as the clearest case he had ever seen of purpura hæmorrhagica. There was a well marked line, and his legs were swollen tremend-

ously. The following morning the animal died. On making a post-mortem examination he found all the organs were slightly congested; the liver, which was a very small one, being so rotten that it could not be lifted up. Mr. Deighton remarked that the horse had been coaxed to take Molassine meal in its corn, etc.

Mr. WHARAM asked whether it was suggested that Molassine meal had anything to do with the horse's illness or condition.

Mr. DEIGHTON: When I saw the condition of the liver I thought that might have something to do with it.

Mr. MASON, in referring to the case, said he had rather wondered in the first instance why his friend Mr. Deighton had called in a second opinion, but when he went into the case he understood the peculiar position his friend was in. Here was a valuable hunter which would not eat at all, and yet when he (Mr. Mason) arrived he had a normal temperature and was practically in the pink of condition for a horse recovering from what he might term a low fever. He attributed the animal's collapse to the fact that he was kept in a box of a stable at the end of three stalls, and he thought that was a very unsatisfactory place to keep a horse in when off his food, and in a low state of fever. Had the horse been removed he thought he might have recovered eventually.

Mr. WHARAM asked whether the horse had been hunted during the season or what he had done during the summer, and Mr. Deighton's reply was that he had not been hunted, and had been kept in the box in the summer, but had been shown at several agricultural shows, as his owner wanted to sell him. Besides Molassine meal, the animal had been given Henry's powders, but there were no more powders or Molassine meal anywhere in the place now.

Mr. McCARMICK mentioned a case he had had, somewhat similar to Mr. Deighton's, of a horse which was suffering from catarrh, and there was a great amount of discharge for three weeks. When he went to see the animal he found a well-marked case of purpura hæmorrhagica, with a temperature of 105°. He got the horse into slings at once, gave two injections, and put him on a diet. At the present time the animal was very much better.

Mr. J. H. CARTER said Mr. Holland's case had recalled to his mind a case several years ago, where a dog after urinating gave a copious discharge of pus. After being under his treatment for two or three weeks the animal had to be destroyed, and the post-mortem examination revealed an enormous cyst about the size of a large coconut.

Mr. PERCY CARTER mentioned a case of an enlarged testicle in a dog he had treated only a day or two before, which he said was very similar to Mr. Holland's case, though the testicle in his case was very much smaller, only weighing 11½ ounces. The dog was a beautiful collie about 14 years old, so he was informed, though to look at it did not appear to be more than seven or eight years old, and he found no second testicle. On examination he found tumefaction in the region of the scrotum entirely occupying one side of the groin, and thinking it was some form of tumour he advised the animal's destruction. On a post-mortem he found the large testicle, which he produced for the inspection of the members. Mr. Carter added that the dog's health had not been affected up to that time, and there was not much fluid when the testicle was taken away.

Mr. GARNETT exhibited a bottle of fully developed worms, which he said had been collected from one expulsion at the coughing of a young heifer which he was treating along with others in August. He thought the case was very remarkable in view of the fact that it had always been his experience that worms began to come

about the end of September, or October and November. As this happened at the beginning of August the worms must have been taken up some time in May, and the development of them must have been very rapid indeed. They were all quite adult worms. About 14 of the heifers, which were about six months old, were affected, and one died.

The CHAIRMAN asked Mr. Garnett if he had treated the heifers by intratracheal injection, and the reply was that he had done so.

Mr. CLARKSON referred to a parturition case he had attended where the owner had complained to him that he had been very much troubled with abortion among his cattle, and had thought that the cow in question was aborting four months before, but apparently she had not. Mr. Clarkson's attention was called to the cleansing, which was a tremendous one, and on looking at it he found an imperfectly developed calf of probably four or five months; one calf was alive and the other arrested in his development. He thought this very unusual, because as a rule if one died the remainder came away, but in this instance the cow had carried the other calf completely through.

The CHAIRMAN expressed great satisfaction at the account of the interesting cases they had listened to, and hoped at future meetings this item would not be omitted from the agenda.

Mr. WHITEHEAD proposed a hearty vote of thanks to the gentlemen who had brought the interesting specimens and given the accounts they had listened to with so much pleasure. Mr. Wharam seconded the vote, which was carried unanimously.

Mr. WHARAM said he would like to see the number of instruments purchased by the Society increased. He thought if this were done the usefulness of the Society would be augmented, he proposed that the matter should be referred to the Council.

The SECRETARY pointed out that the same proposition had been made at the last quarterly meeting, and in due course it had come before the Council meeting, but in the absence of Mr. Wharam it had been deferred.

Mr. WHARAM then raised the point of the title of the Association. He thought the title of the Society should be "The Yorkshire Veterinary Society," and that the appellation "medical" should be dropped. He could not see that they gained anything by trenching on the medical profession, and he should like to hear an expression of opinion on the matter from the members there present.

The SECRETARY remarked that the same question had been discussed by the Society before, but he thought it might usefully be brought before the members again, and if Mr. Wharam would give due notice it would be placed on the agenda for consideration at a future meeting.

Mr. POLLARD proposed a vote of thanks to Mr. McKinna for so well fulfilling the office of Chairman at short notice. Mr. Clarkson seconded, and this was carried.

THE ANNUAL DINNER.

At the dinner which followed Mr. J. McKinna (Huddersfield) again presided in the absence of Mr. J. Abson, President. Among the guests were Mr. J. H. Carter, of Burnley, (President of the Royal College of Veterinary Surgeons), Dr. O. C. Bradley (Royal Dick Vet. Coll., Edinburgh); Dr. Arthur Dennison (Chairman of the Sanitary Committee of the Leeds Corporation), Dr. Angus (Assistant M.O.H. for Leeds), Mr. F. W. Garnett, Windermere, and Mr. Thomas, Leeds.

After the usual loyal toasts had been drunk with musical honours,

Dr. ANGUS proposed the toast of "The Veterinary Profession," and said he welcomed that opportunity of

stating how very glad he was as representing the medical profession to meet the sister profession of veterinary surgeons. The veterinary profession, he thought, was more fortunate than the medical profession in the fact that they had the advantage of the one portal system. He regretted, however, that the importance of the veterinary profession to the country at large had not been sufficiently recognised by Government departments and those who held the power of opening the purse strings. He understood a movement was on foot to have the veterinary College incorporated, and he wished them every success in their endeavours in that direction. They in the medical profession would only have been too glad to have been in the position of an incorporated society during the perilous times the profession had passed through in recent years through the introduction of the National Insurance Act. When a society was incorporated it had a much stronger hold upon its individual members, and from that point of view alone it was a desirable thing. He had been informed of the forthcoming International Congress of Veterinary Medicine to be held in London this year, and he wished them every success in their meetings. Such congresses were of the greatest importance in disseminating abroad the advances of medicine and surgery in every country, and he was sure the delegates from other countries would depart with a very high opinion of the veterinary profession in Great Britain. As representing the public health aspect of the question, he should like to see every bond which the medical and veterinary professions had between them still strengthened, as the trend of legislation was more and more in the direction of dealing with matters which concerned them both. The Tuberculosis Order was one instance where, unless the medical and veterinary professions worked hand in hand, very little success would be likely to be attained, and the same thing would hold true, he presumed, when the Milk and Dairies Bill became law. He deplored the lack of endowment and philanthropic encouragement to veterinary science, and he thought philanthropists might profitably devote some part of their gifts to endowing veterinary research work. The question of swine fever was a matter that they had to deal with as a public health department, and they heard a great deal about the woes of pig keepers under the ban of a terrible Board of Agriculture. From what he had read in the daily papers of speeches made at the annual dinners of butchers, meat traders, and so on, it would appear that the Board of Agriculture's methods of treating disease were simply extraordinary. On inquiry from experts in the veterinary profession, however, it would seem that the serum treatment was not so very efficacious as the butchers would have them believe. It was in the direction of investigating the efficacy of serums and vaccines that the Development Fund was going to be devoted and grants made from it to the veterinary profession, and he, for one, was very glad to hear it. Finally, he should like to say that if the veterinary profession were as successful in their treatment of their patients as they were in the treatment of their guests the farmers would live to bless them.

Mr. J. H. CARTER, in responding to the toast, referred to the pleasure he felt at being again invited to be present at the annual meeting and dinner of the Yorkshire Veterinary Society. The Yorkshire Society was one of the most important in the country, and one of the oldest established, and he was proud to know that his father was one of its founders. When he himself obtained his diploma he joined the Society, and it was not until his removal to Lancashire that he had had to sever his membership with the Yorkshire Society. Although the position of the Royal College of Veterinary Surgeons was not encouraging from a financial point of view, he thought there was never a more encouraging future for the veterinary profession than

there was to-day. If the advent of motor cars had had the effect of driving the horse from the streets to some extent, yet on the other hand it provided considerably more accidents, which all meant grist to the mill. The Bill in connection with tuberculosis proposed by the Board of Agriculture in May last should also prove lucrative to the veterinary profession. With regard to the serum treatment of swine fever, the results had not been altogether reassuring on the Continent and America, but that same method was being adopted at the present time on certain farms in this country. With regard to other diseases, such as foot-and-mouth disease, pleuro-pneumonia, and rabies, no other country in the world was so free from those diseases as we in Great Britain were. He thought that spoke well for the veterinary profession of this country. He had recently read in the newspapers that Mr. Runciman had stated he had been considering a scheme which he hoped to put before the Development Commission for strengthening the veterinary profession, and added that it was absolutely necessary that further assistance should be given from the National Fund towards the education of veterinary surgeons. As to the future of the profession he thought that they might possibly be taken over by the powers that be and become paid servants of the State, like another profession he could name. God forbid that we should ever be looked upon as a down trodden profession, robbed of our independence, and all this by the ruthless ravages of rapacious radicalism. The raising of the standard of stock was bound to have the effect of rendering the work of the veterinary surgeon more lucrative. With regard to the International Congress to take place in this country this year he hoped every member of the profession would liberally subscribe towards the fund that had been instituted, because gentlemen from every part of the civilised world would be there in the interests of veterinary science and for the sake of the profession it was important that they should do all they could to lend support to the cause.

Dr. O. C. BRADLEY, in proposing "The Medical Profession," said that the veterinary profession looked to the medical profession for a certain amount of guidance, and followed their lead in more respects than one. They desired that they in the veterinary profession should occupy the same status as the medical profession. He would, however, like to ask: Why could not the medical profession have been happy with the preliminary examination which they had? If this had not been altered the veterinary profession would not have been faced with such a problem themselves. Could not some mode be devised by which they could still lay claim to have as good an entrance examination as the other profession. He could conceive that if they were to depart from the standard which the medical profession had set up, the finger of scorn might be pointed to them. That was a point of course upon which there might be more than one opinion, but he did think that they might find a way out of the difficulty not by raising the standard of the preliminary examination in the orthodox sense, but in altering the nature of the test. He thought every boy ought not to be compelled to pass in a classical language, and the educational value of the preliminary examination might be increased without doing what was generally meant by the expression "raising the standard." It was clear that in the future the two professions would become more and more united, and they would have to work together much more than they had in the past. Problems of public health must be attacked by both professions and not simply by one. He would ask where would extension of civilisation be if the two professions did not work together? Civilisation could not spread without animals; and incidentally it could not extend without men. Obviously the two absolute essentials were men

and animals, or, if he might narrow it down, in other terms, the medical man and the veterinary surgeon.

Dr. DENNISON, in replying to the toast, referred to the operations of the National Insurance Act. Although he did not like it he had got to tolerate it better. From the monetary point of view he thought the medical profession would be paid; and had thought so before the Act came into operation. But, he asked, was money all the professional man wanted? He took it that as members of honourable professions, so long as they had sufficient in the way of necessities to make their lives happy and comfortable, money was by no means the first object in their life. They were not merchants, out to make a lot of money, but they were there in scientific interests, and their first care should be the helping forward of science to obtain further and more extended knowledge whereby to do good to one's fellow men and fellow creatures. Looking round the city they would see that motor cars were being used by medical men at the present day out of all proportion to what had been in use before. That was because of the increased rush because of the increased number of patients to be seen, and he feared the result was that there was not that careful scientific interest taken in each case that there used to be before the Act came into operation. The natural result was that the medical man got slacker in his work, there was neither the interest nor the justification to be found in taking that deep interest in cases, because there was less time available; and, moreover, in many cases it was often found to be some minor ailment that could have been rectified by obtaining a shilling bottle of medicine from the chemist. Again, with all the statistics that the Chancellor of the Exchequer might be able to produce with the large staff of statistical clerks that must be employed to collect the material and compile it, he did not think when it was all there it was going to be of great scientific interest compared with the individual efforts of the members of the profession. He feared that the Act would bring lower class men into the profession who would grasp at the money paid through the agency of the State, at the cost of individual scientific interest and research. With regard to the preliminary examination standard he thought one of the greatest mistakes the medical profession had ever made was in reducing that standard. How it might be varied was a matter for consideration, but to lower the first obstacle in the way he thought was a mistake. There was one matter he would like to mention, and that was the National Conference on Tuberculosis which would be held in July. Why should they not have a veterinary section in these Conferences? They were dependent upon the gentlemen of the veterinary profession to keep the milk supply pure in the country and to look after the meat provision, and he was glad they were being allowed to make experimental research in local areas in regard to swine fever. He understood that Denmark at the present day were sending swine into Great Britain at a very rapidly increasing rate to make up for the decreased number of swine in this country during the last twelve months. It seemed to him barbarous that directly swine fever was found to be in a place an order should be given for the whole lot to be killed. He could not understand why that principle should be kept to so long without any attempt being made at isolating suspicious cases. What had all the killing of swine done in this country in the way of preventing swine fever?

Mr. MASON presented the toast of "Kindred Societies," and remarked that he very much regretted none of their Lancashire friends were present, as it was the first time in the history of the Society he remembered that being the case.

Mr. GARNETT, in responding, touched upon the question of swine fever, and stated that he had been a

member for some years of the Departmental Committee dealing with the subject. He thought it was not possible for a person to deliver an opinion upon the serum treatment unless he had gone into the question and studied it thoroughly. The serum treatment alone gave protection against swine fever at the outside for a period of only 14 days. If serum treatment was taken in conjunction with an inoculation with active disease there was protection to the animal itself which might extend to its life, but it rendered that animal liable to be a "carrier" for the rest of its life to any other animals it might come in contact with. To propose that such a scheme as that should be applied broadcast in England with the removal of all restrictions was absolutely impossible. They were attacking the question of swine fever from a totally different point of view from the way it was being done on the Continent. In Denmark there was practically no swine fever. In Holland, where they had a great amount of it, they did not attempt to prevent it; it was not even a scheduled disease. In Hungary, which was the home of the serum treatment, they had applied the treatment, but with the most stringent regulations. In the United States, where the treatment had been extended to a far greater extent than any other country in the world, the great increase of the disease to-day was attributed to inoculation *plus* natural infection. He thought the remarks that were being made to-day in regard to the Board of Agriculture and their procedure with regard to swine fever were not doing justice to them—simply through a lack of knowledge of the facts.

Mr. CRAWFORD proposed the toast of "The Chairman," to which Mr. McKinna briefly responded.

During the evening the speeches were interspersed with items from an excellent musical programme given by Messrs. J. Holt, W. Hayle, G. R. Lister, and E. E. Johnson.

J. CLARKSON, Hon. Sec.

CENTRAL VETERINARY SOCIETY.

[NATIONAL V.M.A. SOUTHERN BRANCH.]

The usual monthly meeting was held at 10 Red Lion Square, W.C., on Thursday, March 5th, Prof. G. H. Wooldridge, President, in the chair. The following Fellows signed the attendance book: Messrs. W. R. Davis, F. J. Taylor, J. B. Buxton, R. Bennett, N. Almond, F. G. Samson, M. Cahill, J. Willett, R. Eaglesham, L. A. Auchterlonie, B. A. McGuire, G. Upton, W. S. Mulvey, Prof. E. B. Reynolds, H. D. Jones, E. L. Stroud, S. H. Slocock, W. L. Harrison, S. L. Slocock, J. W. McIntosh, W. D. Halfhead, T. S. Price, H. King, W. Perryman, A. E. Willett, F. W. Willett, and Hugh A. MacCormack, hon. sec.

Visitors: Prof. Lander, Messrs. J. T. Edwards, W. B. Howe, T. C. Toope, and R. Daubney.

On the motion of Mr. Bennett, seconded by Mr. Stroud, the minutes of the last meeting were taken as read and signed.

Correspondence. The Hon. Sec. stated he had received a communication from Mr. Geo. H. Livesey explaining his inability to attend and present item 6 on the agenda, entitled "A Case of Rupture of the Uterus in the Bitch."

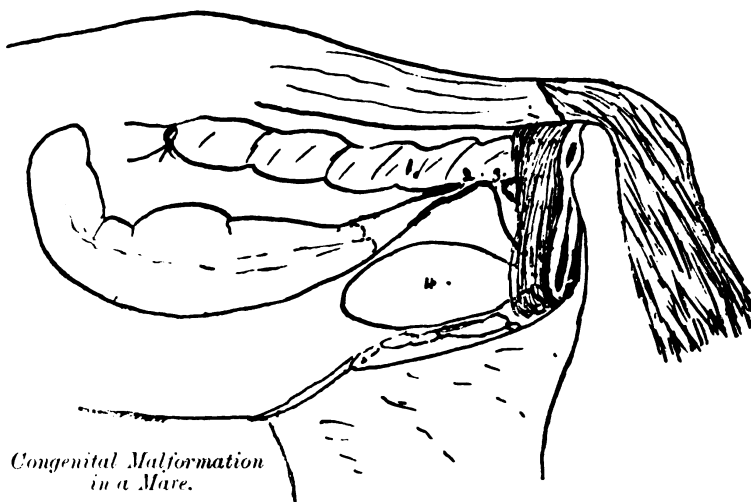
The Hon. Sec. further stated that he had received certain publications from Major Holmes and Dr. Hartley, of the Department of Agriculture, India, relating to rinderpest.

It was decided that the thanks of the Society be tendered to Major Holmes and Dr. Hartley for the above publications.

Nomination. Mr. JOHN BROWNLESS, M.R.C.V.S., St. Mary Abbott's Terrace, Kensington, was nominated, and will come up for election at the next meeting.

SPECIMENS.

Mr. J. B. BUXTON submitted a specimen of strongyle from the fourth stomach of a goat which had set up a fatal gastritis. The case had previously been recorded in *The Veterinary Journal*.



Congenital Malformation in a Mare.

1. Rectum. 2. Vagina opening into rectum. 3. Opening and connection between rectum and vulva. 4. Bladder.

Mr. A. E. WILLETT submitted two cases. The first was that of a mare. Faeces were noticed in the vulva of the mare, and it was thought that a rupture might have occurred. Examination per rectum showed an orifice, with apparently a downward direction, this orifice coming out in the vulva. Feeling further, the speaker had found another orifice, into which he had been able to insert his finger, until he met what he took to be the os uteri. On examination per vulvam he had found no other orifice than that of the urethra. The speaker exhibited a rough sketch.

Mr. PERRYMAN regarded Mr. Willett's diagram with interest. There appeared to be two sinus wounds or false openings, and he would like to know whether the faeces worked down from the front opening towards the uterus; also, if there were any tendency to septic infection of the parts. Was the mare in a condition to pass faeces, both by the rectum and the vagina?

Mr. WILLETT: The animal was in perfect health. He had examined her from the posterior opening. The anterior opening to the vagina seemed to act as a valve, and did not show any tendency to allow the faeces to pass down.

Prof. REYNOLDS desired to ask Mr. Willett how long faeces had been noticed in the vulva, and what was the age of the mare. Did Mr. Willett think, after he had made his examination, that the case was one of congenital deformity, or the result of injury or accident?

In reply to Prof. Reynolds, Mr. Willett said he had no doubt that the deformity was congenital. The driver first noticed faeces in the vulva. The mare was six years old.

The second case was malformed fetus of an Ayrshire cow. The cow had calved on the Friday morning. The cattlemen applied a West's clamp on Sunday morning, and while struggling with this application another foot protruded. The speaker went to see the animal and found another fetus, all four legs in the passage, the hind legs protruding. The next felt, after the hind legs, was an aborted foreleg, further back was a well formed foreleg. He resorted to embryotomy, removing all the legs, the head as a result coming quite easily into the vagina. When the fetus was removed from the cow it was found that the hind legs were growing through the chest—as if in a sitting position—coming out in front of the head. The thorax was turned completely inside out and backwards, so that the false ribs were nearer to the neck. All the abdominal and thoracic organs were external to the body. The embryotomy precluded the possibility of getting a photograph.

The PRESIDENT remarked that, in his experience, the malformation of the genital passages recorded by Mr. Willett was unique, and very interesting. The foetal monstrosity was not quite so rare; he had met with several such cases. Unfortunately it was seldom that the fetuses could be delivered whole so that a good photograph could be obtained.

The speaker (Prof. Wooldridge) then exhibited a series of navicular bones, including one of a horse, seen in consultation with Mr. T. S. Price, injured by picking up a nail, which he had submitted at the previous meeting. At that meeting he had mentioned that in cases where, as a result of a picked-up nail, there was inflammation of the bursa of the navicular with ulceration of the synovial lining of that bursa, the best thing that could occur would be the adhesion of the tendon to the navicular bone, and that, the speaker had indicated, would have been likely to result in permanent lameness. He also said that he saw no advantage in treating cases where it was certain that the navicular bone had been penetrated.

The speaker had since come into possession of the navicular bone of a horse seen with Mr. West and Mr. Stewart which had picked up a nail as far back as October last, and had been under treatment ever since. The animal was still acutely lame, and when slaughtered, Prof. Wooldridge had found that almost the whole of the posterior face was firmly adherent to the flexor pedal tendon, and round the rim of it there was the exostosis which could be plainly seen in the specimen submitted. To his surprise, however, there was no indication of bone disease involving either the coronet or the pedal bone. For a few yards the horse had been able to walk fairly well, but when he struck his toe he would hop along on three legs with the damaged foot suspended high in the air. The post mortem justified the step taken. Above the pedal bone and behind the coronet bone was a cavity containing inflammatory blood-stained exudate. There was a small track on each side which would about admit a coarse knitting needle. On one side the track opened up to the heel; on the other side it was blind, and did not reach the skin.

The third specimen submitted, for which he was indebted to Mr. West and Mr. Southall, represented a case of injury either by a nail or glass—such as broken bottle—although no actual body causing the mischief was found. A suppurating condition of the foot was discovered in August last. The puncture of the foot on the side of the frog was opened, and pus liberated, the horse making an apparently uninterrupted recovery and being set to work in the middle of September. It was improbable that this was connected in any way with the later trouble. At the beginning of January last, however, it again became lame, rather suddenly. The owner, thinking the horse was nail-bound, sent it to the forge

to have the shoe removed and replaced. Nothing was found wrong, and the horse went along better for two or three days, when it became acutely bad. The veterinary surgeon was called in, and found a punctured track between the frog and the bar; this was pared well down and pus liberated. The puncture had evidently been in existence for some days before attention had been called to it. The underrun horn was removed, and good drainage was promoted. In spite of that the horse kept acutely lame, and by the middle of February was not improving. On manipulating and pressing the back of the pastern a considerable quantity of pus spurted out—estimated at an ounce—but no relief followed. The destruction of the horse was then advised. The owner refused this for a fortnight, but a couple of days before slaughter there was a breaking out at the heel. The post-mortem showed that the navicular bone was ulcerated almost completely through, and had the horse attempted to work in that condition the navicular bone itself would have been smashed. The rim of the coronet bone was also affected, and there was erosion and slight exostosis of the pedal bone on the right (outer) wing. Further, there was ossification—with little grooves, probably due to pus—of both cartilages. It was interesting to compare the three navicular bones and work out, from the conditions existing, the advisability of recommending slaughter at an early date in such cases, rather than protract the case and slaughter the animal in the end. It required courage to advise the destruction of a horse worth £80, and it was small wonder that one procrastinated—hoping against hope.

Prof. WOOLDRIDGE also submitted a case of intussusception of the ileum through the ileo-caecal valve into the large intestine of a Pekingese puppy, aged six months. The condition was most frequently associated with worms, but no worms could be found in this puppy. The bowel, except for the affected portion, was healthy. The large bowel had been split open, and the intussusception, resembling a finger lying on the face of the bowel, was exposed. At one end the ileum would be seen and the caecum to one side.

Mr. W. R. DAVIS enquired whether in every case of a gathered nail wounding the frog and followed by escape of synovia the President would advise slaughter. [Prof. Wooldridge replied in the negative].

The PRESIDENT, with further reference to the intussusception case, said that the puppy had suddenly become frantic, and the owner had immediately destroyed him. There had therefore been no opportunity to diagnose or treat the case during life. Probably the trouble had been of very short duration.

Mr. J. W. McINTOSH exhibited two small pieces of bone and two small pieces of charcoal removed from a strangulated scrotal hernia in a little dog, six months old, belonging to himself. The case was unusual. The dog was getting over distemper, and on Tuesday night last the speaker noticed a swelling of the scrotum which, on manipulation, proved hard though not large. He had also asked Prof. Wooldridge to look at the animal, which the Professor did. The case was puzzling, because the animal had been passing faeces freely all day (Thursday) and was quite lively. Prof. Wooldridge operated on the dog, which, however, died within 24 hours, on the Saturday. The swelling was painless.

The PRESIDENT supplemented the remarks of Mr. McIntosh. He had been misled in his diagnosis when he first saw the dog; except for the swelling of the scrotum, there was no indication of strangulated hernia. The dog passed faeces normally and in considerable quantity, was feeding fairly well. All that could be found was that some body in the scrotum crepitated when manipulated. Being a cold and painless swelling, he had been misled as to the condition. Mr. McIntosh had said that he was not certain that there had not been a swelling for some time previously. The dog had not

been examined at all minutely, as there did not seem cause. But for extreme thinness, following distemper, the dog appeared quite happy. It seemed attempting murder to operate there and then. It was therefore suggested that the dog should be got into better condition, and then explored. Next day the animal had a fistula, and, upon operating under A.C.E. anaesthesia it was found that there was an adhesion between the bowel and the base of the scrotum. The adhesions were broken down and the foreign bodies were removed and the bowel sutured. Even then the bowel was decidedly thickened, and could not be returned to the body cavity until the inguinal ring had been materially enlarged. At 2 o'clock the next day the dog collapsed after appearing very bright during the morning, and died in half-an-hour; it was a case of collapse as there had not been time for peritonitis to be established.

Mr. G. UPTON desired to refer to Mr. Willett's remarks, as he had known several cases, particularly with mares that had foaled too young. The slightest rent between the vagina and rectum would set up the trouble. A rent should never be made when a cow was in parturition; hæmorrhage led to a serious state of affairs. He remembered a case of a mare which had torn herself slightly, with the result that a fistula was formed which would not heal; faeces passed through.

POISONING BY CASTOR SEEDS (*RICINUS*).

Prof. G. D. LANDER, D.Sc., Royal Vety. College.

The castor oil plant belongs to the *Euphorbiaceae*, and comprises many varieties of *Ricinus communis*, some of which are cultivated as ornamental hothouse plants. *R. communis* contains the toxine ricine which, according to Stillmark, is also contained in ten other varieties. Probably *Jatropha curcas*, purging nut, or Barbados seed also contains ricine, whilst *Croton tiglium*, belonging to the same order, contains the toxine crotonine. *Abrus precatorius*, the crab's eye or jequirity, containing abrine, is a leguminous plant.

There is a great variation in the size and appearance of varieties of castor seed. At the present moment the seeds purchasable in the London market are of a small variety of the common and well-known drab and mottled seed. I have lately used seeds of this kind obtained through four district agencies. They average 135 seeds to the ounce, whilst specimens of *Ricinus sanguineus* and *Ricinus Zanzibariensis*, with which we have also experimented, averaged 66 and 39 seeds respectively to the ounce.

The relative proportion of husk to seed is important, and is for the specimens we used as follows:

R. communis. *R. sanguineus* *R. Zanzibariensis.*

Husk	30 per cent.	25 per cent.	21 per cent.
Seed	70 "	75 "	79 "

In spite of the well-known dangerous character of the castor oil seeds they are not uncommonly encountered in horse mixtures and in cakes. A cotton cake shown to me recently by Sir John M'Fadyean had with it about 7 per cent. of whole castor seeds, and in the broken material we were also able to find at least 1 per cent. of fragments of husk and endosperm.

Although recorded cases in the veterinary literature are very few, cases of castor seed poisoning may, and do, occur from time to time. Their incidence is not necessarily confined to the cattle practice of the country, but the horse in towns may also be the victim through adulteration of foods. The pressed cake left after the expression of castor oil is, by reason of its ricine content, quite unsuitable as a food, although the usual chemical analysis, which merely displays the percentages of fat, proteins, carbohydrates, etc., would tend to indicate an excellent standard of dietetic value.

Properties of Ricine. The toxine ricine occurs in the endosperm and embryo, but not in the husk of the seed. The decorticated and air-dried seeds give 2.8 per cent. of a ricine preparation by extraction with 10 per cent. salt solution, precipitation by magnesium sulphate, and removal of the salts by dialysis. This preparation is not pure ricine, and no doubt contains a large proportion of albumins.

The active principle is not digested by trypsin. After tryptic digestion the quantity of precipitable albumen becomes almost negligible, although the toxicity is quantitatively preserved. The chemical nature of ricine thus appears to be analagous to that usually ascribed at the present time to the bacterial toxins and ferments, and the name toxalbumen is abandoned. Ricine differs in a marked manner from the bacterial toxins and snake venoms by its relative stability towards the natural fluids and ferments of the alimentary tract. For this reason it is absorbed from the intact alimentary tract, and thus may act as a poison when administered by the mouth. Nevertheless, the toxicity by this channel is at least a hundredfold less than the toxicity when administered by subcutaneous injection.

The toxicity by injection is enormous. According to Ehrlich 1-2000th of a grain per 2lb. body weight; 1 gram (15.43 grains) subcutaneously kills 1½ million guinea-pigs; 3 grains by the mouth is stated to be poisonous to the grown man, and it must be remembered that these figures do not refer to pure ricine but to ricine contaminated with more or less of albumen. Ricine is comparatively thermo-stable, it withstands a dry heat of 110° C., is not destroyed at a moist heat of 50° C., but is so at a moist heat of 100° C.

Symptoms of Poisoning. After injection the first symptom is a rise in temperature and a rapid fall in body weight. The decrease in weight is greater, and about twice as much as that caused by starvation. There are bloody motions, and albumen, and sometimes also blood in the urine. After 24 to 30 hours fatal symptoms suddenly declare themselves, beginning with clonic convulsions, spasmodic movements, weakening of the reflexes, and paralysis; after 15 minutes the convulsions are repeated, and half-an-hour after the onset of fatal symptoms there are dyspnoea and laboured inspirations, and death supervenes. Sometimes the spasms are absent. At the end there are severe central disturbances of the *medulla oblongata*, vaso-motor and respiratory paralysis. The blood pressure sinks. On post-mortem examination there is observed swelling and reddening of the subcutaneous lymph sacs. Great enlargement and reddening of the mesenteric lymph sacs and Peyer's patches, numerous ecchymoses in the intestine, but no ulceration, the spleen greatly enlarged and soft; thromboses are not found. The intestinal ecchymosis is considered to be due to the entrance of ricine from the circulation into the alimentary canal.

These observations, however, have very little value outside the laboratory being observed after injection, for the case likely to arise in practice is that of poisoning by way of the alimentary canal.

The Horse. The horse is very susceptible to poisoning by castor seeds. According to Miessner 450 to 750 grains weight of the seeds, or on the average 600, will fatally poison a horse. Allowing a ricine content of 2.8 per cent. this is equivalent to a dose by the mouth of only 16.8 grains, and again it must be remarked that by far the larger portion of this 2.8 per cent. is not ricine. The actual number of seeds naturally varies with their size.

In the English literature I have only succeeded in finding one case, viz., that published by Broad in *The Veterinary Record* of 1896, p. 226. Broad observed complete loss of appetite, shivering, coldness of the extremities, dejection, abdominal pain, and constipation.

Temperature 103° F. pulse 70. death took place in about three days. One is rather struck by the constipation, as the seeds were presumably not defatted.

In June of last year, Mr. R. Shenton, of Tideswell, sent me a sample of Indian corn, the use of which was supposed to have produced symptoms of poisoning in eight horses. These symptoms were, in Mr. Shenton's own words, "extreme dullness, with well-marked prostration, the eye looking especially dull. Pulse 60-80, temperature ranging from 102° to 104°. Constipation was present in all cases except one, in which there was diarrhoea, and this case rapidly recovered. There was total loss of appetite, and spasm of the diaphragm was a well-marked symptom. In only one case was there marked abdominal pain evinced by the ordinary signs. These symptoms gradually passed off after the administration of laxatives in two to five days."

On investigating the food I found a considerable proportion of broken castor seeds in it, and it was particularly pleasing to observe the excellent general agreement between the symptoms noted in Broad's and Shenton's cases.

CROTON POISONING OF HORSES.

The present occasion seems a good one for putting on record an interesting case of the poisoning of horses by croton. The cases were observed by Messrs. R. E. Godbold, of Sudbury, and Morton Wallis, of Halstead, and I am indebted to my colleague, Prof. Reynolds, for the details.

Croton seeds had been passed through a mill, which was then used for grinding rations for pigs and horses. About 300 pigs had the food, all vomited, and were severely purged, but none died.

Nine horses had the food, as it came from the mill, so that the quantity of croton taken decreased from the first horse onwards.

Symptoms. The pulse was hard, wiry, and quick; breathing accelerated; sweating, pawing, and crouching; constant and very violent purgation; temperature ranged from 103°—105° F. Three grains morphine sulphate in saline, or an equivalent quantity of tincture of opium in drenches of mucilage, corn flour, or arrowroot every few four hours was advised.

Recovery took place in about a fortnight in all cases save one. Unfortunately the carcase in the fatal case was removed before a post-mortem could be made.

The drastic irritant effects of croton oil constitute an important difference between these cases and those of ricine poisoning.

The Ox. Miessner gives the toxic dose of castor seeds for the ox as from 11 to 12½ ounces, that is about 10 times as large a dose as for the horse. This is an interesting illustration in the variation of susceptibility of different genera. The difference is very great and reminds one of the opposite difference in susceptibility to lead, towards which the horse is believed to be ten times as tolerant as the ox.

Mr. J. T. Edwards, M.R.C.V.S., B.Sc., and myself have been experimenting lately on the effects of castor seeds on the ox, and some of our results are interesting. So far as concerns fatal poisoning, our earlier experiments with the ordinary small seeds to which I referred above were not productive of positive results. I shall, therefore, briefly summarise them without giving the full clinical records in detail.

The subjects were young calves, numbers I. and II., weighing respectively 3 cwt. 40 lbs., and 4 cwt. 70 lbs. One ounce of seeds was eaten with bran by calf No. I., and caused no rise of temperature, no malaise, or loss of appetite, but pale fluid and foetid diarrhoea, which passed off in three days. When offered further quantities of seeds mixed in ordinary food this animal, like all our others, absolutely refused to eat them. The later doses were given either as drenches or in ball.

Three ounces of seeds caused the same phenomena as the first dose of one ounce.

We then gave successively 4½ and 6 ounces of defatted seeds. These doses did not elevate the temperature to any noticeable extent, and caused the faeces to become hard and dark, becoming normal in two or three days. Otherwise no abnormality was observed.

Thinking that possibly our subject had acquired a measure of immunity, we then offered calf No. II. 12½ ounces of whole seeds mixed with bran, which he ate, and four days later 18 ounces of pressed seeds in ball. The highest temperature noted was 102° 8' F., and for the rest the whole seeds caused diarrhoea, whilst the pressed seeds tended to make the faeces hard and dark.

Serum was taken from each calf after the observations were ended and tested for anti-ricine by the precipitin test with ricine. No positive evidence of anti-ricine was obtained.

We turned our attention in the next instance to seeds of two varieties cultivated as ornamental plants, viz., *R. sanguineus* and *R. Zanzibariensis*.

We gave single large doses of each of them to two fresh calves of about the same weight, namely, 2½ to 3 cwt.

Calf III. had 14 ounces of *R. sanguineus*, and calf IV. had 16 ounces of *R. Zanzibariensis* in ball.

Calf III. died in eight days, and calf IV. in 3½ days.

R. sanguineus. On the morning of the first day after dosing calf III. was weak, temperature 106.5°, turbid serous lachrymation from both eyes, and mucus about the size of a barley grain under each eye, mucous discharge from nostrils, fluid diarrhoea, straining, but not passing much.

Second day: Temperature 104°, mucous discharge at nostrils, stertorous breathing, watery diarrhoea.

Third day: Temperature 104°, very marked stertorous breathing, watery discharge from eyes, and mucous discharge from nose, pulse feeble. Food and drink were refused, although the animal was not very dejected in appearance, and was still able to walk fairly easily.

Fourth day: The symptoms were much the same, but the breathing was easier.

Fifth day: Temperature 102° 8', marked stertor with each inspiration, which was very deep, strings of mucus hanging from nose and mouth, lungs apparently normal, pulse fast and weak, emaciated, abdomen tucked up and back arched, but still standing, semi-solid faeces passed continually.

Sixth day: Seemed to be improved, temperature 103° 7', breathing almost quiet, pulse 108 (weak), still tucked up and back arched, straining but passing no faeces. The animal began to pick up hay and to drink. Later on the same morning distressing symptoms of coughing, with discharge of greenish stringy matter from the nose ensued, but at night there was no discharge and few coughing fits.

Seventh day: Temperature 103° 2', pulse almost imperceptible, 108 and weak, standing with head and neck outstretched and haggard look, deep gurgling cough with greenish, frothy, mucous discharge from nose and mouth, attempted defecation, but intestines empty.

Eighth day: Found dead.

The post-mortem examination which was made at once showed no gross abnormality; the lungs, heart, liver, kidneys, and spleen being normal. The four stomachs were full of food (hay). The fourth stomach showed at the pyloric end some congestion, being bright red gradually fading. The congestion extended for about two feet into the duodenum and ileum. No evidence of inflammation could be seen in any other part of the alimentary tract, and the intestinal contents were normal. The trachea and bronchi were full of froth.

R. Zanzibariensis. Calf IV. was dosed in the morning. At 8.30 p.m. of the same day temperature 101° 4'

lying down, outstretched, and marked tympanites; got up but showed no distressing symptoms, pulse fast and almost imperceptible, breathing fairly regular, watery discharge from both eyes, marked diarrhoea.

The subsequent daily temperatures were 98.8, 99.4, and 101.6°.

On the third day after dosage we asked Professor Reynolds to be so kind as to examine the calf as an independent outside observer, and he reported as follows:—Temperature 101.6°, pulse imperceptible at jaw, tail, or fetlock. Very dull, dejected, head held on ground, emaciated, tucked up abdomen, champing of jaws, extremities cold, no abnormality of pupil of eye, marked fibrillary muscular twitching chiefly on shoulder and thigh; no special amount of scouring. *Prognosis* most unfavourable.

The animal died on the same afternoon.

The only abnormality observed on post-mortem was a rose-pink to dark red congestion, probably in excess of the static congestion, of the latter half of the intestinal mucous membrane, the contents of intestine and caecum being viscid and yellowish red.

No fragments of husk could be seen in the ingesta. An attempt was made to recover ricine from the omasum contents by extraction with glycerine, but tests of the extract with anti-ricine serum were negative.

Our observations clearly show that the irritant effects of castor seeds are trifling in comparison with the general toxic effect.

The differences which we have observed in the effects of the various seeds with which we experimented are very puzzling. All the seeds contained ricine, as shown by the agglutination and precipitin tests. These tests are so delicate that they do not ordinarily serve to estimate the relative proportions. When occasion permits we intend to quantitatively compare the ricine content of the varieties in question. The small seeds contain a larger proportion of husk, which naturally tends to increase the dose, but this explanation is inadequate, for we gave equal or larger doses allowing for this factor, and moreover several times used defatted seeds in which the toxine is in greater concentration.

Our experiments at any rate tend to prove that the small variety is less toxic than the larger. I am informed that the small seeds are preferred for oil pressing, as giving an oil less liable to be drastic than that derived from larger sorts. It will be interesting to quantitatively standardise our specimens, as if it is found that the small variety has a lesser ricine content, that would explain the milder character of the oil. I believe the purgative effects of the oil to be due to the presence of infinitesimal traces of ricine. This opinion is supported by a recent statement made to me, but still requiring verification, that steaming the oil deprives it of purgative effect. This it would do by destroying any ricine possibly present.

DETECTION OF RICINE.

The protein-like toxins and ferments do not possess characteristic chemical reactions. The only chance of certainly identifying them is by means of their specific physiological effects. Of course, if a cake or mixture contains whole seeds, there is no difficulty. If husks are seen the case is suspicious, but the husks are not poisonous, and it is therefore necessary to find and identify fragments of endosperm, and further also to show that the ricine has not been destroyed, *e.g.*, by steam heating.

The agglutination test. Besides the toxophore ricine also possesses an agglutinophore group. Ricine extracts agglutinate blood corpuscles more or less rapidly according to purity and concentration. With pure ricine extracts and washed corpuscles the agglutination is shown in a dilution of 1:600,000. The agglutination is not dependent on the hæmoglobin for it is shown also by the

stroma or "ghosts." If blood corpuscles are disintegrated by distilled water, centrifuged, and suspended in saline, ricine extracts agglutinate the turbid suspension of "ghosts." Unfortunately the agglutination is inhibited by the presence of much protein. Nevertheless it is possible to observe it in 10 per cent. defatted castor seed to 90 per cent. linseed meal mixture. It is merely sufficient to extract at the incubator temperature with saline, and add the filtered extract to the blood corpuscle suspension. By grinding a fragment of pure castor seed for a few moments with saline and filtering, intense agglutination can be rapidly obtained with this extract.

In my experience the agglutinative power of croton and jatropa is greatly inferior.

The precipitin test. Not the least interesting property of ricine is the production of immunity. Beginning with dosage in very small quantities by the mouth, and proceeding to increasing injections, Erlich showed that in about four months a 4 to 8 hundredfold immunity can be produced. The case is specially interesting as the earliest investigation on immunity by Ehrlich. In general ricine immunity and anti-ricine serum show close parallelism to anti-diphtherine and anti-tetanus.

Anti-ricine serum gives a specific precipitin reaction with ricine extracts. It does not react with croton, and is absolutely diagnostic. Anti-ricine serum is now made by Merck, of Darmstadt, and is purchasable. It should be as fresh as possible, should be kept in the dark in the ice chest, and should be filtered before use. When a 1:50,000 solution of ricine in normal saline solution is caused to form a layer in a test tube, on an equal bulk of serum, a sharp zone of precipitate is found at the area of junction of the liquids within ten minutes, and a 1:70,000 extract causes a distinct reaction in 20 minutes. The German authorities (Miessner, Mooser, Kranich; (see Kranich, *Zeitschrift für Veterinärkunde*, 1912, 455) extract 2 grams of the ricine containing material with glycerine (40 c.c.) at 50° C., filter, precipitate with 350 c.c. of a mixture of equal parts of alcohol and ether, collect and air dry the precipitate, and extract it with 10 per cent. saline.

I have found that direct extraction during 12 hours with physiological saline (0.9 per cent.) is satisfactory down to at least 1 per cent. of defatted castor to 99 per cent. linseed meal. In performing the test one should make parallel blank tests (a) with linseed, or other meal extract, and (b) with the ricine extract and a normal serum.

DISCUSSION.

Mr. G. UPTON opened the discussion, pointing to the various influences which tended to the production of cheaper, and therefore inferior foods by means of adulteration. This was particularly the case with horse mixture. He would go so far as to say that in the big factories, where crushing was done, not a husk was discarded. With regard to the poisoning by beans or seeds (cascara, castor, etc.), this arose from the cakes which were sent over for consumption by animals. A law case was at present pending on the subject. The sender of the seeds disclaimed responsibility. Sometimes, in the hold of ship, cake bags and bags having poisonous seeds, such as croton or castor oil seeds, were broken loose, but the whole contents, were sent to the mill to be crushed, and trouble ensued. The chemists invariably urged that they were not liable; that they bought the cake in bags, and delivered it in bags, and had no responsibility for the contents. The speaker then narrated a case in which he had been sent for to deal with a large number of cows which were dying. The owner explained that they had been feeding on cake, of the quality of which he was himself suspicious, as the bags had been broken to pieces, and he could not be certain as to what they contained. The cows had been fed at

3 o'clock, and the speaker arrived at about 9 o'clock. He found the cows throwing off large quantities of blood by way of the bowels, and enquiry elicited the fact that they had had nothing else to eat but the cake. The conjecture that castor beans produced hæmorrhage and diarrhœa was supported by medical evidence and statements found in books. One of the cows had died, as he had been unable to keep her from straining. Her temperature was high, and the breathing such that he suspected pleurisy. On the Sunday the cow died, and, upon opening her, he found that every part of the bowels, every vein was engorged with blood, and the peritoneum full of blood serum; the pleura and pericardium were covered in the same way. He had known of several of these cases, and sometimes the milk contained blood.

Mr. R. BENNETT desired to know whether Mr. Upton had examined the blood in the fatal case he had mentioned, and whether he had satisfied himself that it was not a case of anthrax. Some cross discussion took place, and it appeared that Mr. Upton had not made any examination of the blood itself.

Mr. J. B. BUXTON referred to the question of immunity. Dr. Lander has remarked that it took some length of time to produce an anti-ricine. The speaker suggested that if a start was at once made with a mixture of toxin and anti-toxin, or ricine or anti-ricine, the period required for immunisation would be much curtailed. He had been struck by the lack of symptoms which had been shown as a whole by the animals with which Dr. Lander had experimented. There did not appear to be so much alimentary disturbance when the animal was poisoned by ricine per os as when the toxin was administered by subcutaneous injection. Subcutaneous injection, according to the speaker's experience, produced greater intestinal trouble characterised by blood extravasations in the intestinal wall, marked enteritis, enlargement of the spleen, and enlargement of the mesenteric lymphatic glands, accompanied by hæmorrhages in the gland substance. He suggested that the acute enteritis referred to by Mr. Upton was probably due to the husk as much as the seed, and apparently the husk did not contain ricine. With regard to the precipitation reaction, he would ask Dr. Lander whether he had ever compared the serum of animals that had been poisoned by mouth with those poisoned by subcutaneous injection, and, if so, whether he found any variation; whether a better precipitation was obtained in the case of an animal poisoned by subcutaneous injection of ricine than in the case of one poisoned per os. Again, whether the serum of an animal dead a short time, after poisoning per os, gave a better precipitation than that from one in which the poisoning had been more chronic. Such had been the speaker's experience, although such a result would not have been expected. With regard to the agglutination reaction, apparently an appreciable amount of ricine was left in the circulation, and it was frequently possible to get a nice agglutination test by using the washed red cells of some other animal, and putting up three tubes—one containing a saline suspension of washed red cells to which a certain quantity of ricine had been added; another containing a suspension of red cells only; and a third containing a suspension of red cells, to which was to be added a fairly large quantity of serum from the poisoned animal. In the case of the first there would be a marked clumping of the red cells which would sink, leaving a clear supernatant fluid. In the second a mere sedimentation; and in the third a number of minute clumps varying in size and number according to the quantity or potency of the serum employed.

Mr. TOOPE mentioned a case of castor poisoning in pigs, due to the grinding of the bean with a common grade of barley. The pigs received the meal early in the morning, and at noon when he visited the sty he

found five pigs dead. He first thought he had to deal with anthrax; there was much diarrhœa, mixed with large quantities of blood. He microscopically examined the blood; there was no evidence of anthrax. The husk of the castor bean was present in the stomach in abundance. All the pigs that recovered took a week or ten days in doing so, some never recovered properly.

In looking up some notes I made on this case at the time I find the following facts noted:

"The five pigs that died had received a large quantity of the meal, which had been previously soaked all night in boiling water, they were being fattened and had been given about four times the quantity that the other eleven had. This accounted for the rapid death. They were fed at 5.30 a.m. and were dead at 12.45 p.m. that day.

Post-mortem showed indications of gastro-enteritis with considerable apoplexy of the posterior bowel, and rupture of the mucous membrane in several places. Skin discoloured from recent extravasations beneath it, etc. Vascular system generally empty or nearly so. Damages against the dealer were claimed and paid."

In another case, in which young animals had been fed with ground cake in the form of meal, there was no diarrhœa; on the contrary, there was obstinate constipation, which, however, might not have been entirely due to the castor bean, although the husks were present in abundance on micro examination. In this case the husks alone remained and had been used as a make weight probably.

Mr. H. A. MACCORMACK enquired in what part of the bean the active principle was found. Dr. Lander replied that there was no active principle in the husk. Continuing, the speaker referred to two cases of castor poisoning, one being fatal. The fatal case was that of a black and tan terrier. When he saw the dog it was violently sick, and purging was excessive, with a certain amount of blood. He could not diagnose the malady, but administered stimulants, the dog died during the night. He was unable to make a post-mortem. On subsequently questioning the son of the owner, it transpired that the dog had been playing with castor seeds and had been allowed to eat one, but only one. Apparently, therefore, one *ricinus communis* had been sufficient to kill.

Another case happened some years ago. A seedsman's foreman had found castor seeds in the refuse of some seeds he had been cleaning. He understood them to be poisonous, but not exactly how poisonous, and gave them to two young fellows who cracked the seeds, and each ate a couple of the kernels, which, he would remark, were of a pleasant, nutty flavour. The youths were next morning exceedingly "limp"; they had been unable to go to bed owing to sickness and purging. The speaker considered that the bloody discharge referred to by Mr. Toope and Mr. Upton was, he thought mainly due to the husks, which injured the mucous surface of the intestines. The husks were hard and flinty, and the injury produced when an animal swallowed them was quite comprehensible.

Mr. W. R. DAVIS referred to a case of a corn merchant who, being desirous of grinding castor seeds to mix with forage for horses, had consulted a medical man, by whom he had been informed that the seeds were quite harmless. In all innocence, the merchant ground the seeds and mixed them with the forage, and, in the result the corn merchant had to pay £300 to the purchaser of the forage for the loss of several horses. (Case reported in *The Veterinary Record*). The speaker would ask Dr. Lander if it were not a fact that many authorities held the castor seed to be non-poisonous. He recalled an account of experiments by a German (he believed named Baumgarten) who failed to poison animals by giving them castor seeds. The corn cockle seed also was said to be poisonous by some, and by

others held as harmless. He scarcely agreed with Mr. MacCormack's opinion that the rough surface of the castor seed husk caused discharge of blood. So great a discharge as referred to by Mr. Toope and Mr. Upton could scarcely have been caused by the sharp particles of the husk. As a boy he remembered that gorse or furze was ground and given with meal to horses. He believed the bleeding was not due to mechanical agents in the bowel, but to action of the poison on the arterioles and capillaries, with consequent rupture of the capillaries of the mucous membrane of the intestines.

The PRESIDENT remarked that Dr. Lander's paper would have the effect of eliminating, in the future, any indifference as to castor seeds. He was surprised at the amount of poisoning which Dr. Lander had obtained from the administration of ricine by the mouth; and he would suggest secondary considerations such as worms or other causes producing injuries in the alimentary tract, increasing the facility with which the mucous membrane would absorb poisons. Mr. Buxton had pointed out that hypodermic injection of ricine produced enteritis. If that were so, it would seem certain that ricine had a specific action on the intestines, and hemorrhagic enteritis might be produced without the additional local irritation of the seeds, which had been suggested as the primary cause of the hemorrhage.

With regard to the statement that the husk did not contain ricine, the point had been established recently, and was contrary to earlier belief. It was interesting to know that in seeds where the husk was in the largest proportion the toxic effect was least. It was also interesting to note that the seed with the most brilliant hue, the *ricinus Zanibariensis*, was the most toxic, although there might be no real association between the facts. On the question of treatment, drastic purgatives, such as pilocarpine or eserine would certainly clear the alimentary tract. But it had to be borne in mind that ricine produced great depression, and this depression was increased by drastic purgatives, so it should not be applied in general practice without previous experiment. In cases of suspected ricine poisoning a great depressant, such as eserine, might kill the patient. He would like to ask Dr. Lander whether, in his experience, he had found that red colouring said to be blood was not blood but was hæmoglobin. As the effusions were sometimes reddish-tinged, and the milk also, he wondered if ricine was capable of producing hæmolysis.

REPLY.

Dr. LANDER said the salient point seemed to be whether seed poisoning produced bloody purgation or not. He could only say that the "experimental" animals displayed no bloody purgation. After injection, however, the symptoms were, as Mr. Buxton had pointed out, more marked, and the lesions greater, than when the ricine was administered per os. In fact, Mr. Buxton had struck one of the remarkable features of the results of the experiments, namely, the great paucity of symptoms and lesions. The bloody purgation question was one that merited the attention of clinicians and pathologists. Speaking as a layman, he supposed it not impossible that there might be variation from species to species and animal to animal. He had been interested in learning the effects of castor seeds in the various cases mentioned. It was astonishing, in view of the various facts narrated, what a relatively enormous dose of ricine was required to produce serious disturbance in a cow. In regard to Professor Wooldridge's remarks on facilitation of absorption, the point was important. If the mucous membrane were not intact, the danger of castor seeds was undoubtedly greatly increased. He had been told that a rat which had received a dose of snake venom per os was afterwards punctured in the stomach by an instrument, with the result that death

followed; otherwise the case need not have proved fatal. Such circumstances had, unquestionably, great influence in determining the actual toxicity. With regard to the ingenious suggestion put forward by Prof. Wooldridge as to colour, colour might certainly be a danger signal. So far as experience carried the matter, he was inclined to think the poisoning power was to be associated with the size, he believed it likely that the sky-blue castor oil seed, which was large, would be poisonous. The inference as to size was not, however, inherently probable. As to hæmolysis, ricine was not a hæmolytic agent, but, he believed that with a powerful agglutination some expression of hæmoglobin from the densely packed corpuscles would take place.

In answer to Mr. Davis, he had certainly heard statements to the effect that ricine was not poisonous. He could not agree with the statements. In consideration of the fact that the true nature of ricine was not understood, it also appeared to him illogical to assert, as had been done, that "ricine" was not the toxic agent.

Mr. T. S. PRICE proposed, and Professor Reynolds seconded, a hearty vote of thanks to Dr. Lander for his interesting paper. The vote was passed by acclamation.

Mr. SLOCOCK proposed, and Mr. Samson seconded, a vote of thanks to those gentlemen who had brought forward morbid specimens. This also was passed with acclamation.

HUGH A. MACCORMACK, Hon. Sec.

SCOTTISH METROPOLITAN VETERINARY MEDICAL SOCIETY.

(NATIONAL V.M.A.—SCOTTISH BRANCH.)

The annual meeting was held in the Royal (Dick) Veterinary College, Edinburgh, on Saturday, 7th Feb., when the chair was occupied by the President, Mr. John Riddoch, M.R.C.V.S. Also present: Prof. Ainsworth Wilson; Messrs. John Cameron, Berwick-on-Tweed; D. McFarlane, Doune; P. Wilson, Lanark; A. Baird, Edinburgh; Andrew Boyd, Melrose; John Aitken, Dalkeith; J. Borthwick, Kirkliston; J. L. Cormack, Edinburgh; W. W. Pegg, Biggar; L. McLaren, Brechin; Robert Reid, Coupar Fife; John Storie, East Linton; Profs. A. Gofton and J. R. U. Dewar. Visitors: Messrs. G. C. Lancaster and J. Plunkett, students.

Apologies for absence were received from Messrs. James Peddie and A. Wallace.

The SECRETARY read the following letter:—

"Local Government Board, Edinburgh.
Feb. 6th, 1914.

Sir,—The Local Government Board have instructed their veterinary medical inspector, Dr. Gerald Leighton, to conduct a full enquiry into the question of establishing a uniform system and standard of meat inspection for Scotland, and to present a report thereon.

Should your Society be desirous of stating their views on this question, the Board will be glad if they will appoint one of their members for this purpose, or submit such views to the Board in writing.—I am, sir, your obedient servant,

(Signed) DAVID BROWN, Assist. Sec.

Mr. STORIE thought it was desirable that the Council should appoint one of their number to represent them at the enquiry. He moved that it be remitted to the Council with powers.

The SECRETARY said this was a matter of very great importance, and it might be advisable to receive a report from the Council.

Mr. MACFARLANE suggested that they should ascertain from Dr. Leighton more definitely the nature of the information required.

Mr. P. WILSON thought they should say that they desired a uniform system of meat inspection for Scotland, and would be pleased to consider any rules or regulations which the Local Government Board might draw up, and give them any assistance possible. They could not do anything until they knew what rules and regulations were proposed, unless they were asked to draw up these rules.

The SECRETARY said the Board wanted their views on the question.

Mr. P. WILSON said the Society had no objection to there being a uniform system of inspection, but if Dr. Leighton was to prepare a report they could do nothing till they knew what it would be.

The SECRETARY said that Dr. Leighton looked to the veterinary profession for data on which to draw up his report. They should meet him sympathetically and do something in the matter.

Mr. CAMERON said he objected to the word "Scotland." They had too much of the Home Rule business of making one law for Scotland and another one for England. What they wanted was a national system. They gloried in their united profession.

Prof. GOFTON said that this letter was of importance, and he hoped they would give the Council powers if need be to consult others outside the Society so as to make the evidence comprehensive.

Mr. STORIE thought it was unnecessary to consult outsiders.

The letter was then remitted to the Council with powers.

ADMISSION OF PRESS TO MEETINGS.

Mr. STORIE, speaking of a letter he had sent to the Secretary, said he thought it of importance that the newspaper press should be represented at their meetings for the benefit of the agricultural public. Anything purely private could be taken *in camera*. He thought it was extravagant to arrange for a special report as at present.

The SECRETARY said it was advisable to continue the present practice of depending upon their own reporter, as the newspaper press gave very brief reports, and reported only what suited themselves.

Prof. GOFTON said that, if desired by the members, the Secretary might be instructed to prepare a report of the proceedings to the public press, but many of their meetings were of no interest even to the agricultural public. The late Mr. Young, editor of the *North British Agriculturist* was a honorary member of this Society for a number of years, and although he received an invitation to every meeting during his (Prof. Gofton's) secretaryship, he could remember him being present at only one. He put it forward as a suggestion that when they had matters that could fairly be reported they might instruct the Secretary to send a report to the newspapers.

Mr. MACFARLANE said it was apparent that if they discontinued their present system of reporting they would be unable to publish a detailed account of the proceedings. It was, however, desirable that the agricultural papers should either be asked to send a representative to their meetings, or that the Secretary should furnish them with a report.

The SECRETARY said he could prepare a report for the Press if necessary, but all they had expended in this way during the year was £2 8s. 7d. It was absolutely necessary to have their own reporter, whether public Press reporters came or not.

The subject was then left over till next meeting.

New Member. Mr. Wm. W. PEGGIE, M.R.C.V.S.,

Biggar, having been duly proposed and seconded, was unanimously admitted a member of the Society.

The CHAIRMAN said it was suggested that those who propose new members should see that the men who were willing to join the Society should attend the meetings.

Mr. CAMERON said he did not know if he could agree with the condition that new members should pledge themselves to attend. In the case of many who were working single-handed it was sometimes impossible to put in a single attendance in the course of a year. He excused them for that, but he excused none in the profession for not being a member. Every man should be a member of some Association so that his influence might be felt when necessary. If he paid his subscription it was his own look out whether he attended or not.

The subject then dropped.

The HON. TREASURER then made his annual financial statement, and added that the thanks of the Society were due to Mr. Peter Wilson for his help at the Lanark meeting, and also to the College for housing them there.

Prof. GOFTON moved acceptance of the financial statement, which was seconded by Mr. Macfarlane and agreed to.

REPRESENTATIVES TO THE COUNCIL N.V.A.

On the motion of the Secretary, it was agreed to re-elect Prof. Bradley and Prof. Gofton as representatives to the Council of the National Association.

PRESIDENTIAL ADDRESS.

Mr. J. RIDDOCH, M.R.C.V.S., Edinburgh.

Gentlemen,—I thank you for the honour you have done me in electing me to the Presidential chair, but it is with some diffidence that I accept such a responsible position. I shall, however, do my best for the success of the Society during my term of office.

There is a series of articles appearing just now in *The Journal of Comparative Pathology and Therapeutics*, by Major-General F. Smith, which affords very interesting reading, and which describes the state of the veterinary profession in ancient Egypt—the birth-place of the sciences—and also in Greece, Rome, and other countries, and gives the history of the profession down to our own era, and the author says "It is a remarkable fact in the world's history that the medical and surgical treatment of animals has always been regarded as a contemptible occupation and beneath the dignity of the educated mind." I believe this was due to the fact that before veterinary colleges were established, and for a considerable time after, the treatment of animals was undertaken by ignorant empirics, who played largely on the gullibility of their clients. In the early history of veterinary science too in this country, men often joined the College late in life. The late Professor Baird once told us of one man who gained his diploma when he was over fifty years of age, and who exclaimed "What a start in life I have got!" It is quite different now; the men who are entering the profession to-day are young men of education and gentlemanly demeanour, and will compare favourably with those of the medical or any other profession. We even find medical men now competing for, and obtaining, veterinary appointments. We surely need some kind of trade unionism to protect our interests. The raising of the standing of matriculation and increasing the period of study has no doubt raised the status of the veterinary surgeon and given him a better position in the estimation of the public.

The veterinary surgeon of to-day has to be well up in all animal diseases, and in methods of treatment which

were unknown comparatively few years ago. Such terms as opsonins, anti-bodies, autogenous vaccines, complement fixation, were unknown when some of us were at College. The veterinary profession has progressed side by side with the medical profession. When the medical profession raises its standard of matriculation, the veterinary profession invariably follows suit. I am quite in favour of the veterinary student being equal in education to the medical. The general public have an idea that the doctor has a superior education to that of the veterinary surgeon. It would be well if we could disabuse their minds of that fallacy. The matriculation examination is exactly the same for both professions. Our's is rather the harder, as all the subjects have to be passed at one sitting. I understand that the medical profession are about to raise their standard of entrance examination, and I have no doubt the veterinary standard will be raised too. We cannot afford to stand still. Every science and profession is advancing, and we must advance with the times. As time goes on more and more will be required of the veterinary student. There is a proposal just now to institute a Public Health diploma similar to the D.P.H. in human medicine, with an increased period of study.

Laboratory work is more and more in demand, and in order to obtain public appointments it is almost necessary to attend a post-graduate course in bacteriology and seropathy. The time may soon come for specialising in certain branches of our profession.

It is regrettable that our teaching schools should be in such a low condition financially, but there is a prospect of the Government assisting the teaching of our profession as they have assisted other branches of education. We need research laboratories connected with all our Colleges; there are still some obscure diseases and diseased conditions which need to be investigated.

The innovation of the motor car has no doubt hit some veterinary surgeons pretty hard. The prancing carriage horses—the best paying class of patients—are being replaced by the fast and luxuriant motor car. Motor traction is also largely coming into use for commercial purposes, and you will hear people say “there will soon be no use for veterinary surgeons.” I do not believe, however, that horses will ever disappear from this country. Then there are other classes of patients. Diseases of cattle and sheep are receiving more attention to-day than ever they have before, and there is a large and ever-growing number of household pets to attend.

For those entering the profession there are some splendid colonial appointments. The position and status of the veterinary surgeon in the Army has been greatly improved of late years. The veterinary surgeons on the Board of Agriculture are likely to get their salaries increased and their status improved, as there is a considerable difficulty in getting men to fill the various posts, and when the Milk and Dairies Bill becomes law, as we hope it soon will, there will be a number of veterinary surgeons appointed throughout the country to carry out the Tuberculosis Order. It is almost a scandal that legislation on this subject has been so long delayed when so much tuberculous milk is being supplied to all our large towns.

The annual number of deaths of veterinary surgeons in this country during the last few years has greatly exceeded the number of young men entering the profession, so much so that there is a dearth of veterinary surgeons at the present time, and many practices are remaining vacant. Taking all these things into consideration, I think the prospects of the men entering the profession to-day are as bright and promising as ever they have been in the profession's history.

We hope to see the Tuberculosis Order considerably extended in the near future. The Board of Agriculture know what is wanted, but on account of the great

opposition by local authorities and others who feared the expense, they had to make only a small beginning. The expense, however, will not be anything like what was anticipated. Sixty thousand pounds a year were set aside by the Treasury for their half of the compensation, and up to the 24th of January last, when over 4,600 animals had been dealt with, and the Order had been in operation for nearly nine months, only £4,500 were required, so that there will be a big surplus at the end of a year, perhaps somewhere about £50,000. Many animals that are not included in this Order are coughing up large quantities of expectorate containing tubercle bacilli, and spreading the disease broadcast. This is especially the case when animals are at grass. A tuberculous cow grazing in a grass field and coughing frequently tuberculous expectorate is literally sowing that field with tubercle bacilli.

A case of this kind came to my knowledge a few years ago. A tuberculous cow coughing up large quantities of expectorate, teeming with tubercle bacilli, was removed from one of our city byres, and was grazed a whole summer in a field near Edinburgh along with two colts. The cow was killed at the end of the season and the carcass was tuberculous throughout. About a year after the slaughter of this cow one of the colts had to be destroyed on account of tuberculous disease. That colt was not brought up on cow's milk, and I think there is good reason to assume that it was infected by its association with the tuberculous cow, which during the whole summer was polluting the grass by her expectorate, and perhaps also by her urine and faeces. One such cow in a grass field is capable of infecting a whole herd. Until all such animals are included under the Tuberculosis Order, there will be little headway made in eradicating the disease. Let us hope that in the near future this Order will be greatly extended so as to include all animals voiding tubercle bacilli in any manner whatever, and that a more liberal compensation will be allowed so as to induce dairymen and farmers to notify suspicious cases.

Mr. STORIE proposed a cordial vote of thanks to Mr. Riddoch for his interesting address.

Mr. CAMERON, in seconding, said that even the last point about the tuberculous cow was worth a great deal. —The motion was adopted.

“MAN AND MICROBE.”

Mr. STORIE opened a discussion on the paper he had read at Lanark on the subject of “Man and Microbe.” He said his chief idea in writing the paper was to bring the subject of bacteria before them in as plain and practical a manner as possible. Many looked on bacteria as something beyond them, and not quite in keeping with their other professional matters, but if they studied the subject they would find that bacteria were just like other organisms—he was almost inclined to say other animals, as perhaps they were more like animals than vegetables in their habits, but he must go according to the text books. They breathed. They should therefore apply the general laws of living organisms to them, especially those of evolution and heredity. One of the important items he mentioned was their economic value—their great value to the manufacturer in many articles. Then they must look on the control of them in regard to their food supply. They could not be fed in this country if it were not for arrangements made for preventing bacteria affecting the food imported into this country.

In regard to milk, bacteria was one of the most important subjects. The disclosures made by Dr. Stiles in his paper read before the British Association, since the Lanark meeting, had shown them the great importance of dealing with the tubercle bacilli in milk,

Some thought Pasteurising of milk spoiled its feeding qualities, although not damaging it to such an extent as to make it unsuitable for infants' food. With regard to toxins, Prof. Gofton at Lanark thought he was overstating the case, but he would read what Professor M'Fadyean said about toxins—"The pathogenic effects of bacteria are almost entirely ascribable to substances which, though elaborate, were manufactured. These were the so-called toxins." Another thing he (Mr. Storie) had mentioned was not taken much notice of in their profession, but more in the medical profession; he referred to the action of auxetics on phagocytes which were believed to destroy bacteria. That subject was being opened up just now, and was of intense interest. The M'Fadyean researches were well worth reading in regard to this subject. He had no experience of nuclein, but he believed it acted on the phagocytes. With regard to pathogenic bacteria, he would like to read a few lines he was afraid to read at Lanark—"Pathogenic or disease producing bacteria. Division into saprophytes and parasites—no hard and fast line can be drawn. Saprophytes may cause disease and may become parasitic under certain circumstances. All bacteria must have had a common origin. Evolution must have been at work amongst them just as in other living things of a higher order. Seeing that bacteria are so low, in fact the lowest known in the scale, and that since they multiply with such tremendous rapidity, they should be the most susceptible of all organisms. You can have a thousand successive generations in a fortnight—equivalent to a thousand years in the life of a wheat plant. What extraordinary variations could be produced in wheat in that time! Darwin believed in the slowness of the process of change in living things. *Natura non fecit saltum*, Nature does not leap, being a favourite saying of his, but we know that nature does leap. Bacteria must be particularly susceptible to changes of environment, a change in their food for instance; a chemical change in food and pasture might affect their own composition so thoroughly as to produce a pathogenic from a harmless form very rapidly. New types of a certain beetle have been produced in America quite suddenly by subjecting the creatures or their eggs to exceptional conditions of temperature and the like, and another experimenter has caused limitations in plants by injecting chemicals into the seed cups at the time of the formation of the seeds. Seeing this can occur in higher organisms, might not many of these sudden and obscure outbreaks of contagious disease be accounted for in this manner. Why should evolution not hold good now as it has done from the beginning."

The next thing he referred to was serums. It was really wonderful the extraordinary number of serums they could procure now as a means of treating disease. They had just to take up Parke, Davis & Company's list to see what a number of serums could be supplied, and he believed a great many of them had been successfully used. In regard to drugs, it was considered he was belittling their power too much. He repeated that they had been far too much used in the past, and that he thought they would be less used in the future. In regard to the treatment of bacterial disease, he did not think they had much effect.

Mr. CAMERON said this subject was both wide and important. He felt it was difficult to keep pace with the manufacturers of all these anti-toxins. It was comparatively easy for them to manufacture the anti-toxins and put them on sale, but sometimes after a big dose of medicine the disease reappeared. All these new anti-toxins cost a lot of money, and their clients were getting poorer. The result was that unless they could cure thoroughly every time at moderate expense they did not give much encouragement to go in for these high priced medicines. There were times, however, when it was their duty to place reliance on medicines,

and to make certain that they had the right quality of drugs.

The SECRETARY said Mr. Storie should be thanked for his remarks. The bit he read to them which had been omitted from his paper was quite valuable, and quite the most original part of his paper. He was perfectly right in saying that less drugs were being used. In these bacterial diseases the best practice he thought was simply to get the animal into as normal condition as possible, to keep the natural passages open, and give fresh air and natural surroundings. In that way they would get better results than with any amount of medicine. But it would always be the function of the veterinary surgeon to prescribe what these conditions of treatment were, and his applied knowledge would always be an invaluable aid to the stockowner.

Prof. GOFTON said he would refer to the two points which Mr. Storie had taken up bearing on the remarks he (Prof. Gofton) made at Lanark. With regard to toxins he was really at one with Mr. Storie. He was not aware that he ever disputed that the majority of organisms operated by means of toxins, but it did not follow that all did, and that was the point of his remarks at Lanark. There was a possibility—more than a possibility in some cases—that the organisms operated by methods other than through toxins, but the general statement was true that the majority did operate through toxins. Drugs were being used less and less he agreed, but the principles of treating syphilis by salvarsan (606) opened up a new line of drug treatment, and the preparation of the drug was entirely on new principles. Apart from that, one must admit that drugs were frequently valuable accessories in treatment by serums and vaccines. While drugs in the past had been abused, there was still valuable scope for their use, and it might be that the future would show that methods were open to them in the use of drugs in treating disease that at present they had no notion of. He would not speak of the evolution of bacteria, because he did not feel he was in a position to say anything about it. One could quite conceive that evolution did take place very rapidly in bacteria, but the subject at the present time at all events, was in a considerable measure speculative. There were very few facts to which one could refer as definite evidence that evolution did take place, and he did not feel that at present he would like to express any opinion on that subject.

The CHAIRMAN said they were very much obliged to Mr. Storie for his paper which covered so much ground. It must have cost him a great amount of thought and reading up. There was no doubt that bacteria followed each other generation after generation in so rapid succession that there was ample opportunity for evolution—far more than in the higher life. It was suggested that some of them might arise spontaneously according to Prof. Schäfer. That opinion would not be universally accepted, but the subject deserved further investigation.

Mr. STORIE, in reply, said he was disappointed that more members had not taken part in the discussion, but the subject might be taken up on another occasion.

A NATIONAL MILK AND DAIRY BILL.

Mr. JOHN CAMERON moved "That this meeting of the Scottish Metropolitan Veterinary Medical Society respectfully requests the Council of the National Veterinary Medical Association to take into their earliest possible consideration the subject of a National Milk and Dairy Bill, and we hope they will request every provincial veterinary Society to consider and formulate their ideas as to the appointment of veterinary inspectors to examine and report on all milch cows, whose milk is used for human food. Also all the various other points connected with veterinary procedure and inspection which should be stated in a Milk and Dairy Bill, which could be commended to give practical national

satisfaction. Having received these said provincial reports, that the Council of the National Veterinary Medical Association consider and formulate the same in accordance with the majority of opinion expressed; have it printed and for sale to all members of the veterinary profession." He said the veterinary portion of a Milk and Dairy Bill which would be practically satisfactory both in theory and practice was a subject which had engaged the earliest consideration of all Veterinary Societies, time after time. They had discussed it again at one of their meetings last year. It was a subject at the first, the last and other meetings of the National. Every milch cow should be brought under the procedure of the Bill. The need for a Bill on lines very different from anything which had previously been presented, was well illustrated recently in extracts from a paper by Dr. A. Philp Mitchell, of the Royal Hospital for Sick Children, Edinburgh, which appeared in *The Scotsman*. The complete paper was well worth reading in *The British Medical Journal*, of January 17th, 1914. Those who were members, or had read the discussion at last year's National would observe that they made special allusion to the very dangers which Dr. A. Philp Mitchell had so practically demonstrated. They would observe that Dr. Mitchell did not discuss the recent Milk and Dairy Bills, but he pleaded for satisfactory veterinary inspection of all milch cows. A useful aid to their correct diagnosis of this subject was to remember that Edinburgh, Glasgow, Manchester, Sheffield and a few more of their large centres of population would wait no longer. They got private Milk and Dairy Bills for themselves, and thereby a greatly improved procedure had been carried out. But they complained of the bad results from the surrounding districts. He hoped the serious results which were brought to light and notice by the doctor's investigations at the Edinburgh Children's Hospital would stimulate the apathetic public to put their shoulder to the wheel and demand that urgent necessary things should be done first. What was worth doing was always worth doing well, and was always cheapest in the end. As many distinguished veterinary surgeons from all parts of the world would attend at the International Veterinary Congress in London this summer, he hoped this Society would do their part thoroughly, and thereby help to have a National Milk and Dairy Bill on the stage of which neither the veterinary nor medical professions would need to be ashamed. He moved that this meeting accept the said resolution and agree that it be forwarded to the Assistant Secretary of the National in the hope that the Council of the National would give it their early and sympathetic attention and support.

Prof. GORTON said he had read this resolution carefully, and while in fullest sympathy with Mr. Cameron's motives, he did not feel at liberty to second. It seemed to him to lead nowhere. It asked the Council of the National to undertake an elaborate procedure which they would not be willing to undertake, and which was unnecessary, seeing that all their Societies were represented on the Council. It led nowhere, because after the Bill was drafted the Council were asked merely to print it and offer it for sale. After consultation with one or two members he had drafted an amendment which might be considered if Mr. Cameron was very anxious that steps be taken.

Mr. CAMERON said he was anxious something should be done to remove the stigma that would come upon them.

Mr. BOYD said that unless the fountain head was pure they could never expect good water. They must deal with the breeding herd if they wanted a pure dairy supply. No Bill would be of any use unless it contained a compulsory clause to test breeding herds.

Mr. STORIE said this was far too big a question to take up at such a late hour.

Prof. GORTON said it was undoubtedly a question for a whole meeting. He suggested that the matter should be remitted to the Council to arrange for early discussion on the whole subject.

Mr. CAMERON said that the subject had been frequently discussed, and there was ample printed material to enable the Council of the National to indicate the mind of the profession. But they really wanted to see what should be put in a Bill.

It was then agreed to remit the matter to the Council.

THE TAX ON MOTORS.

Mr. REID suggested that efforts should be made to get a reduction of the tax on motors used by veterinary surgeons, as was done in the case of doctors.

The CHAIRMAN said that had been frequently tried.

Mr. REID said they should peg away till they got it.

SPECIMENS.

Professor AINSWORTH WILSON showed the following specimens:—

Case I. Navicular Disease. Subject, an Artillery draught mare, aged 8 years, which went very lame in both fore feet at camp in July, 1913, accompanied by a high temperature, and symptoms which pointed to laminitis. The mare was returned to light work in about six weeks, but she was never quite sound.

Early in January acute symptoms reappeared, and the animal was destroyed on the 21st. The hoofs and bones of the lower limbs were exhibited. The navicular bones alone showed evidence of disease in the form of a rarefying osteitis, the holes on the posterior tendinous surface being about the size of a pin's head and half a split pea respectively, and the interior of the bones being considerably hollowed out. He drew attention to the absence of any sign of ring formation or contraction of the hoof.

Case II. Navicular Disease. Subject, a cart horse, aged 10 years, fell very lame in one fore foot in 1912. He suffered considerable pain, could bear no weight on the limb, and the toe merely touched the ground. An extensive inflammatory swelling appeared round the heel and coronet. Fracture of the os pedis or acute osteitis was suspected. Two months later the horse was destroyed, having shown no improvement. The os pedis and os corona were the seat of new bony deposits, but the primary and essential lesion was evidently an extensive carious condition of the navicular bone.

It seemed to him worthy of note that both these cases occurred in heavy horses, in both the cartilage was removed, and the bone roughened without the perforans tendon being involved.

Case III. Deferred fracture of the Tibia. Subject, a three-year-old van gelding with the following history. Entered a large stable on Jan. 1st, 1914; kicked in the stall above and inside the hock on the 21st, the wound being trifling, and associated with little or no lameness; put to work on the 28th. At midday on Feb. 1st the groom who was watering the horse in the next stall heard the young horse slip and fall. When examined, a piece of bone was protruding through the skin on the outside of the leg, a hand span or more above the hock.

The specimen showed a very long oblique fracture. The practice in this stud had been to place horses so kicked in slings for about three weeks, but in this case precautionary measures were neglected.

It seemed very probable that a starred or deferred fracture without displacement had existed from the outset.

A fore foot of the same horse (exhibited) showed two small sidebones in process of development.

JAMES HENDERSON, Hon. Sec. & Treas.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.			Anthrax.		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
			Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.		Out-breaks	Slaughtered. *
GR. BRITAIN.													
Week ended March 14			18	18			1	5	53	105	3	59	495
Corresponding week in	{	1913 ...	20	20			3	3	58	117	5	37	587
		1912 ...	18	18			3	6	81	148	5	69	621
		1911 ...	18	24		6	1	5			7	52	687
Total for 11 weeks, 1914 ...			209	223	9	65	23	63	868	1660	122	609	5516
Corresponding period in	{	1913 ...	147	161			35	108	875	1884	97	374	4391
		1912 ...	280	309			36	82	1397	3258	134	657	8156
		1911 ...	230	264	1	18	46	176			270	401	4583

(a) Confirmed. (b) Reported by Local Authorities.
Board of Agriculture and Fisheries, March 17, 1914

† Counties affected, animals attacked: London 5.

Disease in Certified Meat.

The Medical Officer of Health for the Port of London, in a report to the Corporation, mentions that certain pig carcasses affected with tuberculosis were found among the meat which arrived recently from Flushing at Queenborough. They all bore the official certificate of the Netherlands Government as approved by the Local Government Board. One carcase, affected similarly, arrived from Ostend. It bore the Belgium Government certificate.

A consignment of Australian meat, consisting of 398 buttocks, proved to contain, to the extent of 12.3 per cent., "worm nests" (*onchocerca*). The meat bore the official certificate of the Australian Commonwealth.

Synthetic Milk.

Milk from Soya beans is not a new idea. Several years ago an attempt in this direction was made, but was negatived, for one reason, by the distinctive flavour.

It is announced in the public press this week that this, and other difficulties have been overcome. It is stated that the fluid, as far as its appearance is concerned, is quite indistinguishable from rich cow's milk, is delightfully smooth on the palate, but to some persons the taste seems slightly different from that of ordinary milk.

Casein obtained from the soya bean is the basal constituent of the new milk. All oil and waste matter are removed and only the pure casein left; to this basis are added in exact proportions fatty acids, sugars, and salts, and the difficulty of producing a perfect emulsion has been completely overcome, the new fluid satisfying every test in this direction, even to the extent of refusing to "cream."

In order that the synthetic milk may approximate to the real milk, bacteria of the required strains, including the lactic acid bacilli, are introduced to the fluid and permitted to act until it reaches exactly that "maturity" at which fresh cow's milk is obtained. This condition is proved by the fact that excellent cheese and "butter" can be made from it.

The milk can be made up in any proportions desired, that is, with more or less casein, fat, sugar, or salts, and thus can be supplied to children and invalids according to a medical prescription. Finally, the new milk can be produced more cheaply than can ordinary milk.

"Who takes or uses."

The following case presents an unusual feature in such prosecutions:—

At Chelmsford on Friday, 13th inst., Gladstone Ward was summoned for using the title of dentist, not being registered under the Dentists' Act, 1878, and not being a legally qualified practitioner.

Mr. P. J. Ward said the prosecution was brought by the British Dental Association. Defendant started business in Chelmsford, at premises in Tindal Street, which were described as "The Anglo-American Dental Surgery," and on a plate outside the premises were the words "G. Ward. Teeth extractions." Last year defendant applied for membership of the Chelmsford Unionist and Conservative Working Men's Club, and for that purpose had to sign his name in a book, together with a declaration according to the rules of the Club. On September 15th defendant signed and described his occupation as "dentist." As apparently he had heard that some stir had been made, he applied to the Committee of the Club to alter his description. In the presence of the secretary defendant added the letters "ry" to the word "dentist." The witnesses in the case, Mr. Ward added, were all called against their will, and on subpoena of the High Court.

W. T. Brown, clerk to the solicitors to the B.D.A., produced the Dentists' Register and the Medical Register, in which, he said, the defendant's name did not appear.

Mr. C. H. Aubrey, for the defence, said the Act only forbade the assumption of the description or name of dentist, but did not stop anyone from practising dentistry. The prosecution was brought about by the fact that there was another dental practitioner in the Club, and there was a little bit of feeling in the matter.

The Mayor (Alderman G. W. Taylor) said it was not a flagrant case, but at the same time dentists and the public must be protected. Defendant would be fined 40s., and costs £1 9s. 6d.—*East Anglian Daily Times*.

A joint sub-committee of the Market and Public Health Committees of Edinburgh Town Council have recommended the setting up of a separate veterinary department for the city under a duly qualified veterinary inspector, and transferring to the new department the veterinary inspectors at present in the Medical Officer of Health's department. It is considered that the proposed new department will attract more competent men to the service, and that there will be better chances of promotion for the officials.

PARLIAMENTARY.

SWINE FEVER AND SERUM EXPERIMENTS.

In the House of Commons on Wednesday, March 18, in reply to a question:—

Mr. RUNCIMAN said: One experiment had been begun up to the present, and others are in contemplation; over 100 swine have received injections of serum, and are now under observation. It is inadvisable at present to disclose the whereabouts of the premises where the experiment is being made, but the results will be published in due course.

The Royal Sanitary Institute.

A Sessional provincial meeting will be held on Friday March 27th, in the University, Birmingham, (Edmund St.), at 7.30 p.m., when a discussion will take place on "The Certification of Milk and its Effect on the General Milk Supply," opened by Wilfred Buckley, Esq., of Basingstoke. The chair will be taken at 7.30 p.m. by Louis C. Parkes, M.D., D.P.H.

Those proposing to attend and take part in the discussion, can obtain a copy of the paper to be read, on application to the Secretary of the Institute three days before the meeting.

E. WHITE WALLIS, *Secretary*.

90 Buckingham Palace Rd., S.W.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, March 13.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Lieut. R. Rawlins to be Capt. Dated July 1, 1913.

Lieut. W. G. Wragg to be Capt. Dated March 1.

Personal.

LOWE.—At Bangalore, India, on the 21st February, 1914, the wife of Capt. W. Cecil Lowe, A.V.C., of a daughter.

The following inventory was included in the list recorded in the Sheriff Court books of Argyllshire during February:—JAMES DOUGLAS, M.R.C.V.S., of Messrs Cook & Co., Ltd., Calcutta, and who resided at Erich Bank, Kirn, £39,680.

OBITUARY

A. PATON, M.R.C.V.S., Clarendon Rd., Leeds.

Graduated, Glas: July, 1888.

Mr. Paton died on March 13, from chronic nephritis. Aged 55 years.

The death is reported of Mr. Leonard Thompson, B.Sc. M.R.C.V.S., of Retford, Notts., but no particulars are to hand. He graduated at London, July, 1909.

The late Mr. W. J. Watt, M.R.C.V.S.

The funeral of the late Mr. W. J. Watt and his wife took place at Norwood Cemetery on Thursday, 12th inst. There was a fairly large attendance at the cemetery, which included Messrs. H. Lomas, J. W. Brownless, and A. Dunbar, M.R.C.V.S., and many local and personal friends. There was a large number of floral tributes—from the children and relatives, and from firms and employees with whom Mr. Watt had been connected, and from personal friends.

Mr. Watt was born in Virginia, U.S.A. He came to Fulham Road in 1904, and later took over the practice of Mr. Sam Bignold, at Lillie Bridge, on his retirement. He had been in bed on the Tuesday, apparently with influenza, but was out again on Thursday, and died suddenly in the forenoon on Friday. His wife took his death very much to heart: serious nervous symptoms followed and death occurred on the Tuesday. They leave four children, two boys and two girls.

CORRESPONDENCE.

TRANSMISSIBILITY OF TUBERCULOSIS.

Dear Sir,

"Fools often walk where angels fear to tread," and I fear I may be one of the former in writing this letter. I cannot, however, allow Mr. Leeney's letter in your last issue to pass without notice.

In the early part of his letter he says "that it has never yet been definitely proved that any human being has been infected by the consumption of cow's milk." I think that this remark may apply equally to many other diseases which are accepted by all professional men as being infectious or contagious, and probably with less theoretical proof to support their belief.

Tabes mesenterica, I believe, is recognised as an infantile tuberculous condition of the bowels, and was believed to be caused by the using of cows milk, long and long before the bacillus tuberculosis had been recognised; now, of course, it is an accepted fact except by a few.

Surely Mr. Leeney cannot suggest that experimental inoculation is the same as natural infection. Does he know anything of the opsonic index theory? This, to my mind, proves conclusively that the conditions of the body are not always the same, and we have yet to learn which condition is most favourable to certain bacilli.

If tuberculosis has been produced by inoculation or feeding upon tuberculous material, it should be sufficient cause for legislation to prevent the use of tuberculous products for human consumption, or for that of lower animals, at least in a raw state.

I always court discussion, but strongly condemn a professional man who, like Mr. Mond, endeavours to make a name with the lay public by undoing the strenuous labours of generations of scientists.

In my presidential address I made allusion to this matter, and an eminent medical bacteriologist present corrected me when I alluded to Mr. Mond as a medical man, he informed me, however, that he was the son of a chemist who made a heap of money.

I trust that Mr. Leeney will think twice before he rushes into print to defend a layman against his professional confreres.—Yours faithfully,

J. CHAS. COLEMAN.

Swindon.

MOTOR TAXES: PETROL REBATE.

Sir,

Following Mr. Bindloss's example, I wrote to our M.P., Mr. Arnold Ward, re motor taxes and petrol rebate for veterinary surgeons, and have received promise of his help when the Finance Bill comes before Parliament. He asks for publications containing the previous history of the matter. Can you, or any of your readers, tell me where these can be obtained?—Yours faithfully,

A. C. WILSON, Capt. A.V.C., (Ret.)

Berkhamsted, March 19th.

Original articles and reports should be written on one side of the paper only and authenticated by the names and addresses of writers, not necessarily for publication.

Communications for the Editors to be addressed
20 Fulham Road, London, S.W.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1342.

MARCH 28, 1914.

VOL. XXVI.

THE NEED FOR STUDY.

It was once a proverb in our profession that a man must be a good castrator and obstetrician to be a successful country practitioner, and a good judge of lameness to succeed in the town. Like most such aphorisms, this one was never absolutely true, but for many years there was an element of truth in it. There were many practices in which the most important part of the work came under one of these two headings.

Our profession has changed greatly since then. Obstetrics is certainly no more important in the country than it used to be—perhaps less so to us. There is a tendency—not always a wise one, we think—to relinquish castration; and the importance of lameness is dwindling everywhere. New work is coming into our hands to counterbalance this, but all of it requires new knowledge. The canine and feline practice that is now so important in town and country alike, has forced us to study new patients, of whose diseases most of us knew very little twenty-five years ago. And even in our old patients there is now much more for us to know than there once was. Many more diseases are recognised, and in many cases the diagnostic methods are far more delicate than in the old days. Preventive medicine, which now concerns most practitioners more or less, is largely carried on by these finer diagnostic methods. Throughout all our work the demands upon the practitioner's knowledge are greater than before. This is true to-day, but it will be much more true a decade hence.

Veterinary practice is rapidly becoming permeated with special subjects, some so complex as only to be fully grasped by specialists. Nevertheless, the practitioner is required to possess a sound, if in some cases an elementary knowledge of all. Clinical medicine and surgery, bacteriology, protozoology, parasitology, vaccine and serum therapy, hygiene, dietetics—the man in practice, though he may not study all of these very deeply, cannot afford to neglect one. The more he learns of each, the better he will grasp the daily problems of his work.

But there is now so much for the clinician to know that very few will attain true competence without a little reading practically every day. General Smith, in a well-considered address to Army officers a few years ago, suggested one hour daily as probably sufficient, which, if backed by observation and practice, it should be. Something like that is essential to the practitioner, unless he is to fall behind the times in some respects.

ALOPECIA TOXICA.

The accompanying photographs are of a bay gelding belonging to a cavalry regiment.

The animal after suffering from catarrhal fever was to all appearance convalescent when he was suddenly attacked with cedema of both hind legs, and the under surface of the belly. There was no digestive disturbance. The cedema disappeared in a few days and the coat became loose, so that it could be plucked out in handfulls. Finally the animal presented the appearance of baldness seen in the illustrations. It will be noticed that the long hair of the body, *i.e.*, mane and tail, also the coarser hair on the lower part of the limbs was not affected.

The horse fed well, and was apparently not at all disturbed by the condition. After about a month it has quite recovered, grown a beautiful new spring coat, and is again at duty.

J. R. HODGKINS, F.R.C.V.S., Capt. A.V.C.

Dublin.

THE TREATMENT OF CONTAGIOUS ABORTION WITH "BISSULIN."

Owing to the success I have had with the use of this agent, I think it right to place my experience at the disposal of my *confrères*. I have also had some communication with my friends, Mr. J. F. Healy, of Middleton, Co. Cork, and Mr. Allan Baker, of Bansha, Co. Tipperary.

I have singled out three special cases in my own practice for the subject of these notes.

The first case, in 1912, was in a herd of twenty-two cows, the property of a widow, near Limerick. Eleven of these cows had aborted, and the twelfth aborted within twenty-four hours of the time I began treatment, and the disease then stopped. In this case the infection was traced to allowing a neighbour's cow to be served by the bull on the farm.

In the second case, in 1913, there were eighteen cows, six of which had aborted, seventeen of which I treated, and the eighteenth was brought into the byre, subsequent to the treatment of the others. This cow received no treatment, and aborted after she had been in the byre a month. The cause of infection was again directly traceable to an outside cow.

The third was in the herd of the Earl of Dunraven, at Adare, and out of thirty cows ten had aborted, and one or two came in season regularly, but did not stand to the bull. In this case the bull, which was a prize Aberdeen Angus, had been

allowed to serve cows outside the owner's, and on examination he was found to be badly affected with infective granulomata of the genital organs, and the testicles were very much swollen.

I have also tried "Bissulin" with two or three mares which did not stand to the stallion, and had, in each case, vaginitis, and found it very successful.

Directions for the use of "Bissulin" are supplied by the makers with each package, but it is advisable in some cases to modify the treatment, taking into account the severity of the vaginitis, which is nearly always present. I have also found "Bissulin" effective in the cases of abortion where no vaginitis was apparent, and, in my opinion, in these cases the entrance of the germ is by the genital organs, despite the theories advanced against this opinion. Were it otherwise, local treatment would be of no avail.

In Mr. Baker's notes, he says "I have had most excellent results in the thoroughbred mares with which I used "Bissulin." It has also continued to be very successful in the cases of contagious abortion in cows," and writing later on, he says, "Just a line to let you know how the "Bissulin" is doing for me. I may say it has been an unequalled success both in cattle and in brood mares. I have treated about three hundred cows suffering from contagious abortion, and in every case the result has been most satisfactory. In thoroughbred mares it has been equally good. Whether used in the troublesome cases where there is an abundant white discharge, or in the equally annoying cases of an acid secretion of the vagina, the result is always gratifying. I have one mare which I showed you when you were over here that had suffered from a thick white discharge for five years, and she has been perfectly cured and is heavy in foal, due to "Bissulin" having cured the interior of the womb. I have several other cases of valuable mares treated with "Bissulin" and proving in foal, which were barren before using it. In all twenty-five mares."

"Bissulin" is put up in small conical pessaries for use in the mare and cow, and very little skill is required in using it in either of these animals, but in the case of the bull, for which it is put up in small cylindrical pessaries, there is sometimes a difficulty in inserting them into the sheath, and the bull should be, if possible, treated by the veterinary surgeon himself, but an intelligent herd is quite capable with a little demonstration, of carrying out the treatment in cows. In addition to the use of "Bissulin" the hind quarters of the cows, and their hind legs and tails, should be thoroughly cleansed and disinfected periodically, so also should the walls and floor of the byre and stable.

"Bissulin" has the advantage of being a non-irritant as well as a germicide and antacid, and is odourless, which is a decided advantage. "Bissulin" is made up of different fats and contains 25 per cent of strong Sozodol mercury.

The cases I have stated are only three of many, but they were all cases in which the disease had been rampant before treatment, and in each it had entirely disappeared after proper precautions had

been taken, and the cows which had previously been sterile proved in calf afterwards; several mares I have treated have also proved in foal, and the results I have had in my experience tally with those of Mr. Baker, extracts from whose letter I have given above.

Mr. Healy had also promised me some notes, but they are not to hand yet.

E. C. WINTER, F.R.C.V.S.

Limerick.

NOTES ON MAL DE CADERAS.

By Capt. A. L. FARRANT, F.R.C.V.S., M.R.S.I.LOND.

Synonyms.—Peste de caderas (Brazil), Mal de caderas, tummy-baba or tummy-a (Paraguay, Argentine), Flagellosis of equidae, trypanosomiasis of equidae.

Mal de caderas, disease of the rump or hind-quarters, is an epizootic disease of horses, mules, and asses occurring in South America. The trypanosome, which is the causal agent, was discovered by Dr. Elmassian, Director of the Bacteriological Institute in Asuncion, the capital of Paraguay. The organism, *Trypanosoma equinum*, was named by Vosges, of Buenos Aires, in 1901, shortly after its discovery.

The form and appearance of the trypanosomes are as follows:—The body is elongated, and usually blunt at one end with a flagellum at the other. Centrally there is a round or oval body, the nucleus proper. Behind this, and usually very close to the posterior end of the body, is a very much smaller body, the centrosome, blepharoplast, or kinetonucleus. From this centrosome arises the flagellum which runs to the surface, emerges, and passing forward forms the border of the undulating membrane. This flagellum is longer than the undulating membrane, displaying a free portion which is usually as long as the entire body. The end from which the flagellum protrudes is regarded as the anterior.

Trypanosomes are parasites of vertebrates ranging from fishes to man. They are confined to the blood, lymph, or cerebro-spinal fluid, and therefore, with one exception, the intervention of an intermediate host is necessary for their transfer. In the case of certain of the mammalian trypanosomes the carrier is known to be a fly. The transfer of trypanosomes by the invertebrate host is effected in two ways, the indirect or biological and the direct or mechanical. The former is wholly analogous to what takes place in the transmission of malaria by mosquitoes. The fly bites an animal suffering from the disease, taking up a number of trypanosomes with the blood. These are not digested by the fly, but go through certain biological processes, and may even apparently disappear as trypanosomes. At all events the fly, after the first few hours, generally ceases to be infective, and remains non-infective for several days. After this lapse of time, however, the trypanosomes within the fly resume their ability to infect any host which the fly may bite. Moreover, flies which have thus become infective remain so, so far as is known, for the rest of their lives, the trypanosomes continually multiplying within them. In the experimental work so far done, however, only a small proportion of flies—from 5 to 20 per cent. acquire this permanent infection, although in nature it is believed the percentage is much higher.

The second method of transfer is the direct or mechanical. If a fly bites a sick animal, and very shortly afterwards a healthy one, the latter may contract the disease. This is due to the fact that as a result of the first bite the proboscis of the fly becomes charged

with trypanosomes, and these are deposited in the wound made when the fly bites for the second time.

The experiment has been tried of allowing a fly to bite a sick animal, and then successively, two healthy ones. It has been proved that the first healthy animal to be bitten by the fly usually contracted the disease, whereas the second one did not. In other words, the fly cleaned its proboscis while biting the first of the two healthy animals. The ability to infect by the direct method is usually lost at the end of a few hours, but may be maintained for as long as two or three days.

In the transfer of an organism by the indirect method, while there may be more than one insect host, these, in the known cases, are closely allied species. In direct transmission it apparently makes but little difference what species of the biting fly is involved, the essential condition being that the interval between the bites of a sick to a healthy animal be only a matter of a few hours. The fly merely acts as a scalpel or hypodermic needle. Indeed, it has been found that the house fly, which cannot bite at all, can transfer *Mal de caderas, surra, and other trypanosome diseases by merely sucking alternately a raw surface on a sick and healthy animal.*

Knowledge as to what takes place with the trypanosome in the intermediate host is meagre up to date. According to Lacerda, *Mal de caderas* was imported into the island of Marajo, from there it spread as far as the State of Matto Grosso. This much is certain, that since 1860, *caderas* has caused such ravages in this particular State that horses and mules have all disappeared, and the natives are obliged to use cattle as draught animals, and even for riding purposes, young bulls are trained. At the present time the disease has greatly extended; it occurs in Brazil and Bolivia, throughout Paraguay, in the Argentine territories of the Chaco, Formosa, and Misioner, also the Argentine provinces of Corrientes, Santiago del Estero, and Catamarca. The epizootic is most prevalent in the marshy districts, and during the months that it rains least.

Animals susceptible. *Caderas* occurs naturally almost exclusively amongst horses, but by inoculation can be given to a large number of other mammals.

Let us first study the disease in the horse and mule, since it is essentially a disease of the equidae, and in them may give rise to very serious epidemics.

We have already seen that in certain parts of South America it is so difficult to keep horses and mules alive that cattle have to be used for riding purposes. Vosges mentions the case of a cavalry regiment which in June received 600 horses, of which only 100 were alive in the following November. Mules and donkeys, especially the latter, are more resistant than horses.

SYMPTOMS.

1. The first sign of the disease in horses and mules is lachrymation—or tears from corner of the eyes running down the face; this at first is slight, but in a great number of cases increases in amount until it becomes profuse. There also appears at the inner canthus a semi-gelatinous secretion.

2. Petechiæ or ecchymosis of the mucous membranes, chiefly those of the membrana nictitans, which is of a claret colour, ranging from 1-16th to $\frac{1}{4}$ of an inch, there may only be one or several, and, as the disease progresses they increase in size, and coalesce. To observe these changes the lids of the eye must be everted. (*This is very characteristic in the early stages.*)

3. Irregular fever, temperature 104° F. to 107° F., which only lasts for very short periods, during which the trypanosomes can be usually found if smears of blood are taken upon glass slides.

4. Urine voided tinged with blood in great number of cases, more so in the females of the present epidemic.

All authorities on this disease agree in stating that the organisms are not found in the urine, even when animal is affected with hæmaturia.

5. Penis of male projected from sheath for about six or eight inches, with slight erection, and the organ bent either to one side or the other; this condition is continuous in animals thus affected.

6. The skin, particularly of the neck and shoulder is often the seat of slight weeping eruptions; the patches, which are 1 to 1½ inches in diameter, are covered with small scabs, and the hair falls out in those places. It is probably due to the presence of these patches that, upon all the estates where the epidemic has fallen, there has been an increase to an enormous extent of collar galls and harness sores in spite of extra precautions to prevent it, and the mules doing less than their usual work.

7. Paresis or loss of power to control the hind limbs in the later stages is characteristic; although microscopical examination of the blood at this time fails to reveal the presence of the organism, but if injected into susceptible animals, a typical infection results. The disease is almost always fatal to horses, it lasts from two to five months in the horse; six to twelve months in mules and asses. There is rapidly advancing anæmia, emaciation, and great debility, although in the great majority of cases the appetite remains good throughout, no matter how high the fever may be. There is extreme pallor of the visible mucous membranes, followed a little later by a yellow tinge. From first to last there is a progressive wasting.

8. The severity and course of the disease depend a good deal upon the age and breed of the animal; for example, young mules that appear to have taken more to the equine side of their breeding are less resistant to the disease than adult healthy mules of common breed.

MODE OF PROPAGATION.

Mal de caderas can be very easily inoculated, a very small dose being sufficient, or to place traces of the virus upon the surface of a wound or excoriation. The ingestion of blood or an emulsion of an organ containing trypanosomes is not followed by infection, if there be no recent wound or abrasion of the mucous surfaces. Sexual intercourse does not give rise to infection, as in the case of dourine or mal du coit, and allied trypanosome disease of horses.

One would naturally imagine that *caderas* was spread by means of biting flies, as in the case of *surra* and *nagana*. This opinion has been held by nearly all observers, but is still denied by some, and it is not in agreement with the number of recorded facts as to the conditions under which *caderas* is propagated. Personally I believe the stomoxys calcitrans which is so prevalent in every stable, pen, or byre in the colony, is the chief means of the spread of the present epidemic.

Lignières states an epizootic of *Mal de caderas* which occurred on a farm in Paraguay, did not spread to a neighbouring farm, which was separated from the former only by a wire gauze partition.

The only fact upon which all observers are agreed is that the capybara (*Hydrochoerus capybara*) or caprincho which is very abundant in Paraguay and in the Argentine portion of the Chaco, along the banks of the small watercourses running through the cattle-rearing districts is the source from which the flies or other carriers of the disease probably obtain the virus. These animals are attacked periodically by an epizootic of an unknown nature; they lie about along the banks of the streams and die there. When the farmers in Paraguay find the dead bodies of capybara on their farms, they know that *mal de caderas* will soon break out among the horses. There is a striking analogy between this mortality among the capybaras which precedes outbreaks

of caderas, and that among rats which precedes epidemics of plague. (Capybaras are, I understand, the water rats of this colony).

PROPHYLAXIS AND TREATMENT.

Veterinary surgeons, estate managers, and horse proprietors should see that all animals are daily dressed with the following, in the morning for preference, with a view of keeping their animals free from the various flies, and thus to some extent preventing the animal from becoming infected: Kerosine 1 gallon, water 2 gallons, soap (soft or hard) 1 lb. Dissolve the soap in the water and add with continual stirring whilst water is boiling the kerosine, allow to cool, and then brush into coat of animal with body or dandy brush. Quinine, methylene blue, salicylic acid, carbolic acid, permanganate of potash, boracic acid, also intravenous injections of perchloride of mercury have all been tried in the treatment of this disease. As with nagana and surra, arsenious acid has given favourable results in some cases, but the improvement has only been temporary. Nuclein gave excellent results for a time, but later did not appear to exert any beneficial effect on the diseased animals. Salvarsan (606) proved useless, the animals upon whom it was tried quickly succumbed. Intravenous injections are being made upon some 30 animals, but at this stage it is too early to be able to offer any opinion either for or against the treatment to which they are being subjected. At a later date I hope to be in a position to offer some further information on the subject.

In animals found to be affected with the disease, before they have become very low in condition, I have had most excellent results by the administration morning and night of a mixture of pot. iodide and hydrarg. biniod, particulars as to doses, etc., I shall be most pleased to forward to any qualified brother practitioner; the animal while undergoing the treatment must be relieved from work of any kind, neither riding or hauling being permissible, as the animals appear to be unfit to cope with the disease and work at the same time.

ABSTRACTS FROM FOREIGN JOURNALS.

EPITHELIOMA OF THE JAWS IN THE HORSE.

Roquet, in an anatomo-clinical review (*Revue Générale de Méd. Vét.*) of this condition, says that it is one of the most malignant forms of cancer. It is found in adult or old horses. Generally it is situated upon the upper jaw; sometimes, but more rarely, upon the lower.

Among the symptoms are painful mastication, difficult deglutition, and a discharge of fetid saliva. The cancer is seen in the mouth, most frequently in the region of the fourth and fifth molars, in the form of fungoid friable granulations, which bleed easily. The teeth are deviated, loose, and sometimes detached. There may be invasion of the palate, nasal cavities, sinuses, and even of the skin of the forehead, with deformation of the head, a purulent fetid catarrh, and frequent nasal and buccal hæmorrhages.

The submaxillary and retro-pharyngeal lymphatic glands are invaded by cancerous adenites. The development of the epithelioma may also extend to the pharynx, soft palate, tongue, orbit, meninges, etc. The general condition rapidly becomes altered.

Histologically, the cancer appears as a squamous-celled epithelioma, usually having its origin in the gingival epithelium. More rarely it is a paradental epithelioma, originating at the expense of cellular accumulations which have remained unused in the formation of the teeth.

Epitheliomata of the jaws are distinguished from sarcomata by microscopical examination. Sarcomata are less frequent than epitheliomata, are found at all ages, and only exceptionally become generalised to adjacent organs.

Epitheliomata, on the other hand, are very soon accompanied by metastatic developments in the lymphatic glands. Their evolution is very rapid, and in two, three, or four months, the local lesions are very serious.

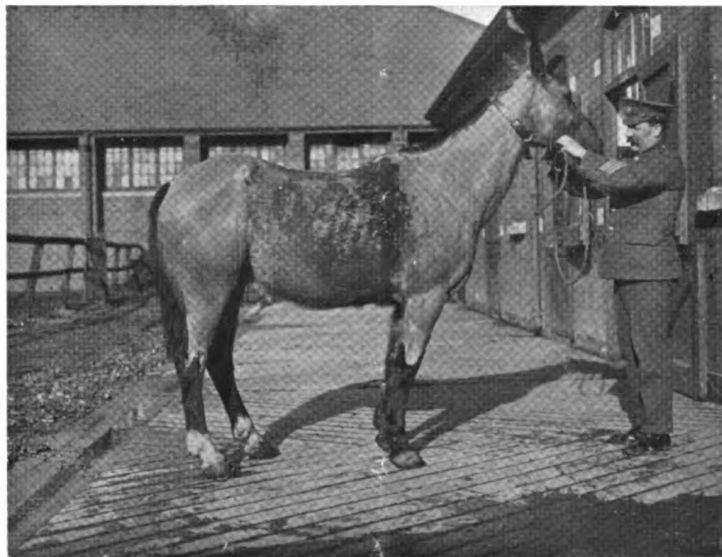
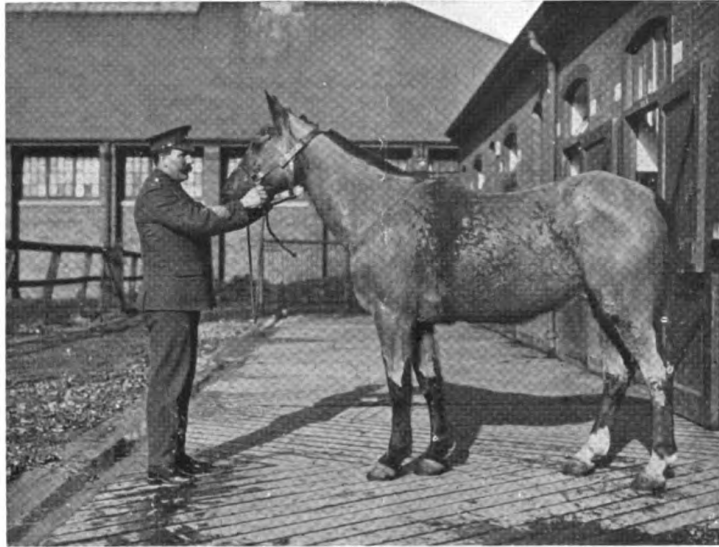
There is no effective treatment. The free excision of the lesions is inefficacious, as recurrences follow it.—(*Annales de Méd. Vét.*)

MANUAL TREATMENT OF THE BOVINE OVARY IN STERILITY.

Gebauer, an official veterinary surgeon of Dippoldiswalde, has published (*Deutsche Tier. Woch.*) an article upon this operation. The enucleation of the persistent and hypertrophied corpus luteum in the treatment of sterility was recommended by Hess and Zschokke in 1906, but Gebauer thinks, from the small number of reports upon it that have appeared in the professional press, that it is little practised by German veterinarians. Nevertheless, from the ease of its performance, and the successful results that have been attained by it, he thinks that it must ultimately be adopted by every practical veterinary surgeon.

Gebauer has performed the operation some hundreds of times upon cattle. From his experience he concludes that an examination of the ovaries by palpating them through the walls of the rectum should be undertaken upon every heifer which, after reaching the age of two years, still shows no signs of going to the bull. In farms on which cows are failing to conceive, the examination should be made upon each animal eight weeks after bulling, whether she has again come into use or not. Finally, the examination should be made upon every cow which, about eight weeks after calving, has not yet come into use for the bull.

The examination should be made by the rectum, and with one arm only. The ovary is palpated with the finger-tips, and is not drawn backwards while this is being done, but is allowed to remain in position. If a persistent and hypertrophied corpus luteum or an ovarian cyst exists in an ovary, an elevation is then distinctly perceptible to palpation. The ovary is then taken in the hollow hand in such a way that the corpus luteum to be removed or the ovarian cyst is placed against the thumb. The ovary is brought against the thumb by gentle pressure from all four fingers, so that the place to be operated upon can be felt distinctly. The cyst is broken, or the corpus luteum pressed out, by pressure of the thumb against the index finger. Even moderate pressure causes the extrusion of the projecting corpus luteum.



ALOPECIA TOXICA.

To illustrate note by Capt. J. R. Hodgkins, F.R.C.V.S., A.V.C.

When the operation is performed with one arm, there is no great danger of tearing away of the ovary. Nevertheless, the waves of rectal peristalsis, which set in at intervals of from 30 to 50 seconds, must be guarded against, and in that event the ovary must be released, even without completion of the operation, and then be searched for anew.

After extrusion of the corpus luteum, Gebauer advises compression of the ovary for about half a minute. After-hæmorrhages are rare. Gebauer has only observed two cases of protracted bleeding, both of which were successfully treated by the injection of ergotin.—(*Berliner Tier. Woch.*)

THE DEMONSTRATION OF THE NEGRI CORPUSCLES, AND THE DIFFERENCES BETWEEN THEM AND SINIGAGLIA'S CORPUSCLES.

Lina Negri Luzzani has published (*Annales de l'Institut Pasteur*) an article upon this subject. Numerous methods of examining the nervous system of animals suspected of rabies for the discovery of Negri's bodies have been described, and the author recommends the following procedure.

1. Gently scrape the surface of the hippocampus, or, in default of that, the cerebral or cerebellar cortex or the grey portion of the spinal ganglia.

Disassociate the scraping upon a slide in a dilute solution of acetic acid. Numerous isolated nervous cells are thus obtained, in which it is easy to recognise Negri's bodies.

2. If this examination of the fresh tissues gives no result, small fragments of the same tissues are fixed for two to four hours in Zenker's solution (Potassium bichromate 2½ parts, corrosive sublimate 5 parts, water 100 parts, and acetic acid 5 parts). They are then washed for some minutes in water, and teased out upon a slide. The discovery of Negri's bodies is more easy in tissues treated in this manner than in fresh tissues.

3. When necessary (which very rarely happens) sections are cut, and stained by the rather complicated technique of Mann.

Negri's corpuscles are only visible after a sufficiently long period of incubation. Their appearance coincides with that of the first symptoms of the disease. They resist putrefaction, and are preserved in glycerine. In cases of furious rabies, they are found especially in Ammon's horn.

Sinigaglia has described bodies resembling Negri's corpuscles in the cells of the conjunctiva, bronchial epithelium, and nervous centres of dogs suffering from distemper. The distemper is localised in the regions in which these corpuscles of Sinigaglia are found. Negri's corpuscles can be differentiated from Sinigaglia's by the following characters.

Negri's bodies are distinct and regular in outline. The outline of Sinigaglia's bodies is distinct, but is irregular, undulating, and sometimes tortuous.

Negri's bodies contain internal formations which are well individualised, unequal, and often budding. Sinigaglia's bodies contain internal formations which are smaller than those found in Negri's bodies, are equal, and have a granular appearance *en masse*.

Each cell contains one or several of Negri's bodies. The number of cells containing Sinigaglia's bodies is very small.

The author, from numerous examinations, is convinced that to examine for Negri bodies is a reliable method in the diagnosis of rabies.—(*Annales de Méd. Vét.*)

MAGNESIUM SULPHATE AS AN ANTIDOTE TO ARSENICAL POISONING.

D. Sieber states (*Bulletin de Sciences Pharmacologiques*) that a hypodermic injection of magnesium sulphate, in a dose representing half a gramme of the drug per kilogramme of the animal's body-weight (roughly 7.7 grains to 2.2 lbs.) is capable of saving a rabbit which has received an ordinary lethal dose of arsenic by the mouth or under the skin, but not if the arsenic has been given intravenously. The magnesium sulphate therefore only acts as an antidote to arsenic so far as the latter drug has not yet invaded the circulation.

The author's view of the mechanism of the antidotal action of magnesium sulphate is that it consists in a retardation of absorption by the formation of a chemical combination which is deficient in solubility.—(*Annales de Méd. Vét.*)

W. R. C.

CENTRAL CANADA VETERINARY ASSOCIATION.

The eleventh annual meeting was held in the Board of Trade Building, Ottawa, on Jan. 23rd. Meeting called to order by the President at 7.30 p.m. for business and papers. About 35 members were present.

Under the heading of new business it was moved and carried that the sum of five guineas be forwarded from this Association to the Hon. Sec. and Treasurer of the Hunting Memorial Fund, London, England, to assist in affording a suitable recognition of the life work of the late Mr. William Hunting.

An authorised schedule of fees was approved and instructions given to the Secretary to have a certain number printed, as follows:—

First visit in City or Corporation	dols. 2.00
Subsequent visits to same case	1.00
Dentistry: Dressing or floating teeth at	
Infirmary	1.00
Extraction of molar teeth	from 3.00
Cutting of molar teeth	" 3.00
Parturient apoplexy	" 5.00
Castration of colts	" 3.00
Parturition	" 5.00
Removal of retained placenta	" 3.00
Prolapsus uteri	" 5.00
Anæsthetics—horses and cows	" 5.00
Visits: First five miles outside town or city	
limits	per mile 1.00
Each subsequent mile	" .50
Examination for soundness with certificate, from	3.00
Double fees and mileage charged for calls	
from 7 p.m. to 7 a.m.	
Detention fees:	
During day, after first hour	per hour 1.00
During night, after first hour	" 1.50
Consultations	" from 3.00
Consultations at surgery	" 1.00

Papers read and discussed occupied considerable time. The paper on Contagious Abortion was received with interest. This paper dealt with the isolation of Bang's bacillus and the presence of the organism in the dairy milk. This paper was read by Mr. Charles Evans, Department of Agriculture.

The most important paper on Surgery was one by Mr. Geo. Hilton on "The Operation for double Scrotal Hernia in the Horse."

The meeting further instructed the Secretary to frame up a resolution from this meeting to the Hon. the Minister of Agriculture urging the Government to take steps towards forming regulations for the control of bovine tuberculosis.

Officers elected for the ensuing year were as follows :

Hon. President.—Dr. Fred Torrance, The Veterinary Director-General.

President.—Mr. Geo. Hilton.

Vice-president.—Mr. R. T. O'Hara.

Hon. Secretary-Treasurer.—Mr. T. C. Evans.

Executive Council.—Messrs. W. G. Austin, A. E. James, J. B. Hollingsworth, H. D. Sparks, and W. C. McGuire.

Auditors.—Messrs. A. W. Harris and Young.

CHARLES EVANS, Hon. Sec.-Treas.

8 Hartington Place,
Ottawa, Canada.

THE NATIONAL VETERINARY BENEVOLENT AND MUTUAL DEFENCE SOCIETY.

The annual meeting was held at the Grand Hotel, Manchester, on Thursday, 5th March, at 4.30 p.m. The President, W. A. Taylor, Esq., Manchester, in the chair. There were also present Messrs. Wolstenholme, Sumner, Stent, Munro, Lindsay, Spreull, Pillers, Hopkin, McKinna, Clarkson, and G. H. Locke, hon. sec.

Apologies for absence were received from Messrs. Carter, Shipley, J. H. Wright, Trigger, Elam, Abson, Dawes, Packman, Jackson Young, Woods, J. S. Lloyd, Wharam, and A. W. Mason.

The minutes of the last annual meeting having been published, were taken as read. Proposed by Mr. Stent, seconded by Mr. Sumner.

PRESIDENT'S ADDRESS.

The PRESIDENT, in his address, said : It is with great pleasure that I rise to address you, in accordance with Rule 4, at the annual meeting of this most useful Association. I do not intend to do more than reiterate the remarks that I made at the last annual meeting. You will remember the matters alluded to on that occasion, which have been issued in pamphlet form and circulated to all the members of the Society, and also to every member of the veterinary profession.

So far as the Defence Branch of the Society is concerned, I think only two cases have had to be considered by the Council, and one at present is still under consideration.

The Benevolent Branch is something like the poor, always with us, and there is constant disbursement of our funds taking place throughout the year. I think we are at the present time expending all that we are empowered by the rules to dispose of, at least there or thereabouts.

I am informed by our worthy Secretary that the membership stands somewhat better than last year, but it is not for me to trench upon his report.

I cannot understand why more members of the profession do not join this Society, and I think it is a matter of amazement to the Council of this Society. Of all the Associations that exist in connection with our

profession I look upon this Society, in the case of a young man starting a practice, as the most valuable one he could join. If he could not afford to join any other Association he should join this one. It is useful not only in connection with cases taken into the law courts, but in other cases where threatened action calls for prompt procedure. I have heard of men subscribing to ordinary insurance societies to cover their liabilities, but how much better would it be to come to a Society like this where they can have the benefit of the experience and the assistance of the officers and the Council.

I do not intend to occupy your time further, and will ask the Secretary to give you his report.

HON. SECRETARY'S REPORT.

Mr. LOCKE reported as follows : I am pleased to say the Society is still progressing, but rather slowly. We had at the end of the year 275 members, there were 15 new members and seven resignations. This year, since January, six new members have joined. Three members have died this year.

We have now about 10 recipients of our benevolence, and two grants of money were made. We have lost three good friends by the death of Mr. Faulkner and Mr. Hunting, and through the resignation, on account of ill-health, of Mr. Butters. Their places on the Council require to be filled.

There has been a change in the trusteeship, and in place of Mr. Faulkner, Mr. Packman, of Bury, has been appointed. There are two changes in the Life Governors of the Benevolent Branch. The Midland Society have adopted Mr. Dawes, and I have been adopted to represent the Lancashire Society.

Two donations were received, one of £5 5s. and another of £2 2s.

In the Defence section we have had two cases, one of which was won at a cost of £15 16s. 3d., and the other is in abeyance.

TREASURER'S REPORT.

Mr. WOLSTENHOLME said the balance sheet had been printed and distributed to every member. It speaks for itself.

In interest alone, *plus* the donation of Mr. Sewell, we have received £196 12s. 3d., sufficient for all purposes without touching capital, which is excellent. We have disbursed £162 12s. I am sorry to say there is a sum of £29 8s. owing from members in arrear with subscriptions, some members being as much as five years behind. I think their names should be deleted from our list.

Mr. HOPKIN, in opening a discussion, referred to the President's remark—that in the Benevolent Branch the expenditure had nearly reached the limit, but so far as he (Mr. Hopkin) remembered, they were not bound to a specified amount.

Mr. WOLSTENHOLME replied that only the interest from the money invested by the Benevolent Fund could be expended.

Mr. LOCKE read Rule 10 as follows :—"The present capital of the Fund, and all monies received whether donations, subscriptions, or legacies, shall be invested, and only the interest or usufruct, or a part thereof, which may be received therefrom, is to be expended."

Mr. HOPKIN asked whether any surplus in the amount expended out of the interest in one year could be expended in the following year.

Mr. WOLSTENHOLME replied in the negative, and said unused interest in any year passed into the capital account.

Mr. CLARKSON thought it a pity that these balances should have to be re-invested, and the rule should be altered. According to the present rule there is nothing in hand to spend at the beginning of a year.

The TREASURER said there was always loose money in the bank in the name of the Benevolent Fund which could be used.

Mr. HOPKIN considered that times had changed so much, the Society was prosperous, and more money should be disbursed; and after further discussion he gave notice that he would propose an alteration to Rule 10.

Mr. MCKINNA moved a vote of thanks to the retiring officers, especially mentioning the President, Secretary, and Treasurer. He echoed the words of the President in saying it was lamentable that out of three or four thousand members of the profession only about 274 avail themselves of the benefits of this Society. The first thing he did was to join, and although he had never had to claim its help he felt that he was doing something towards the benevolent branch.

Mr. LINDSAY seconded, and it was heartily carried.

The PRESIDENT thanked the proposer and seconder on behalf of his co-labourers and himself. When coming to the meeting he asked himself which member of the executive, excluding himself, had the hardest work, and said it lay between the Secretary and Treasurer. He came to the conclusion that during the past year it was the Treasurer. The trio had, however, pulled together and worked as one man.

The PRESIDENT then vacated the chair.

Mr. HOPKIN, in proposing that Mr. TAYLOR be re-elected President, said he remembered many years ago proposing Mr. Taylor's father for the same position, which he occupied to the close of his life. The son had done the work so ably, and followed in the footsteps of his father; he possessed the attributes necessary for the position, and had the interests of the profession at heart that they could do no other than ask him to again resume his position in the chair.

Mr. MCKINNA expressed great pleasure in seconding.

Mr. TAYLOR again took the chair, and said that so long as he had the power, his services would be at the disposal of the Association.

Vice-President. Mr. WOODS was proposed for re-election by Mr. Sumner, seconded by Mr. Wolstenholme. Carried.

Council. Mr. NOËL PILLERS moved that the Council be re-elected with the substitution of the names of Mr. Lindsay, Dumfries, and Mr. Slocock, Hounslow, for those of Mr. Faulkner, deceased, and Mr. Butters resigned. Mr. Spreull seconded. Carried.

Mr. LINDSAY was gratified with his election, and said he would endeavour to further the interests of the Association to the best of his ability.

Treasurer. Before being re-elected, on the proposal of Mr. Hopkin, seconded by Mr. Munro, Mr. Wolstenholme desired the meeting to know that at the end of this year he felt that he would have to relinquish the post. When first elected it was a revelation to come into close contact with the brave hearted founders of the Society.

Hon. Secretary. Mr. Sumner said there could be little difficulty in selecting the man for this post. They knew the breed of Mr. Locke, and his capacity for the work. This had always given entire satisfaction. He proposed Mr. Locke. Mr. Lindsay seconded. Carried.

Auditors. Mr. J. H. Wright, M.R.C.V.S., Manchester, and Messrs. Litton, Pownall and Co., were re-elected on the proposition of Mr. Stent, seconded by Mr. Clarkson.

The question of the action to be taken in regard to members in arrear was discussed. Mr. McKinna proposed that a registered letter be sent to those members whose subscriptions are over two years in arrear, drawing their attention to rule 2. Mr. Hopkins seconded, and it was approved.

WILLIAM HUNTING MEMORIAL.

The PRESIDENT: You are all cognisant of the fact that most of the veterinary societies have been approached by those responsible for getting up a memorial to the late Mr. William Hunting. Mr. Hunting was a member of this Society, and a man whose loss the members most deeply deplore. During his lifetime no action was taken by Government to indicate the esteem in which he was held by the members of our profession and which some of us thought he richly deserved. No recognition of a public nature was taken with regard to Mr. Hunting's indefatigable work in connection with public health, sanitation, and other matters relating to some of the diseases communicable from animals to man. The question is whether our Society in reply to the application can take action in the matter in the way of making a presentation to the Memorial Fund. Personally, I can find no rule which will empower us to do so. This Society was formed for the defence of veterinary surgeons in case of unjust claims and actions at law which might be brought against any of its members. It was also framed for benevolent purposes, and we can hardly look upon a public memorial though it be a professional one as a fit object upon which to expend the funds of our Society. The memorial is not taking the nature of a charitable investment, otherwise probably our Society might be within its rights in allocating a subscription to the fund. [No action was taken in the matter].

It was resolved that a report of the annual meeting be printed and sent to each member of the Society.

The meeting closed with a vote of thanks to the President.

G. H. LOCKE, Hon. Sec.

The Relation between the Bovinoid Tubercle Bacilli found in Man and True Bovine Tubercle Bacilli.

Mr. Walter H. Fearis, Department of Bacteriology, King's College, writing to *The British Medical Journal*, says:—"In the first place, it must be noted that although some investigators—for example, the British Royal Commission, Frazer, Philp Mitchell, Raw, Weber—have found bacilli of bovine type in tuberculous children, such evidence is no proof that the children were infected by tuberculous cattle: the source of infection may have been other human beings infected with tubercle bacilli of a similar bovine type. Working quite independently of the writer, Ralph Vincent also has arrived at this conclusion.

Secondly, it has not yet been proved how many—if any at all—of the tubercle bacilli of bovine type found in the tuberculous children were really identical with the true bovine tubercle bacilli of cattle. It must be remembered that, up to the present, the assumption of this identity has been based on evidence obtained by very careful cultural observations, and the study of the pathogenic effects produced by each of the two kinds of bacilli on animals alone but not on man. All the reliable evidence so far obtained from observations of the effects of the bacilli on man strongly suggests that the true bovine tubercle bacillus is not strictly identical with the bacillus of bovine type found in tuberculous human beings. Thus, by inoculations made on himself, Carl Spengler demonstrated that whereas the true bovine bacilli are relatively harmless to man, on the other hand, the bacilli of bovine type found in human beings are exceedingly virulent and capable of causing extremely severe toxic symptoms—indeed, the latter type nearly caused death. Spengler's observations are confirmed by similar investigations made by v. Baum-

garten and Klemperer, who likewise demonstrated the relative harmlessness of the true bovine tubercle bacillus to human beings; the investigations of the Italian and Japanese Governments carried out under the direction of Gosio and Kitasato, respectively, are additional confirmation; further important evidence which harmonises with Spengler's conclusions is to be found in the researches carried out by Koch, Kossel, Möllers, Weber, Emmett Holt (of New York), Ungermann, and Burnet, amongst many others.

Spengler has especially studied the tubercle bacillus of bovine type found in man; he calls this bacillus *Typus humano-longus*. Under certain conditions the virulence of *humano-longus* is greatly diminished; this would partly account for the mild course of the disease seen in so many cervical gland, bone and joint cases in children. Further, it is very probable that the true bovine bacillus plays an important part in immunising children against *humano-longus*, just as the virus of vaccinia immunises so well against variola. Indeed, from the results of his researches and other evidence, Spengler has advanced the hypothesis that the true bovine tubercle bacillus may be regarded as a jennetised *humano-longus*, the latter, by animal-passage on cattle, having lost its severe pathogenic action towards man, thereby becoming changed into the relatively harmless true bovine tubercle bacillus. In his admirable communication on the subject, Clive Riviere has also alluded to the probable immunising action of the true bovine bacillus on man under the ordinary conditions of life.

Since morphological and cultural tests, and animal investigations, do not appear to be capable of helping us to distinguish a relatively harmless true bovine bacillus from a *humano-longus* which is highly dangerous to man, therefore a laboratory method for distinguishing between the two is urgently needed.

Possibly, in the recent ultra-microscopic researches carried out by Spengler on the toxins of the tubercle bacilli, some solution of the problem may be found. In this communication only a few interesting points can be touched on concerning these investigations. Bouillon pure cultures of the tubercle bacilli to be tested are prepared. The emulsified surface-growth on each flask of bouillon is well shaken with the liquid in the flask, and, after standing, the contents are filtered. The filtrate—the "toxin"—is diluted to a strength of 1 in 10 with saline, and then examined in an ultra-microscope arranged for investigations on colloids. The following have been observed:

Type of Tubercle Bacillus from which the Toxin was Obtained.	Colour of the Cone of Light Observed in the Ultra-Microscope.
<i>Typus humanus brevis</i> , Koch.	Grass green.
<i>Typus humano-longus</i> , Spengler. (The tubercle bacillus of bovine type cultivated from human beings.)	Greenish-blue.
True bovine tubercle bacillus isolated from cattle.	Soft blue (N.B.—No trace of green).

In those toxins which I have examined there has been no difficulty in distinguishing between the soft blue light obtained with the toxin of true bovine bacilli and the distinctly greenish-blue light characteristic of the toxin of *humano-longus*.

Obviously, it is urgently necessary to repeat these observations, using tubercle bacilli of bovine type ob-

tained from a very large number of tuberculous human beings resident in many different districts and countries.

Thus it will be seen that a great deal more work remains to be accomplished before we shall be in a position to state that the tubercle bacilli of bovine type found in tuberculous human beings have been communicated from tuberculous cattle to man. Some cases may be found to be due to cattle, but, in order to prove this, the necessary evidence must be obtained.

In the meantime it is extremely desirable that every effort should be made to ensure a clean and pure milk supply. Amongst others, Lord Rayleigh, Sir John Byers, and Mr. Robert Mond have shown how this can be accomplished in a practical manner."

Disputed Sale of a Hunter—Claim by a Veterinary Surgeon.

At York County Court on Tuesday, 10th inst., before his Honour Judge F. G. Templer, Alexander Farquharson Durkie, of Mill of Mains, Dundee, farmer, was the plaintiff in a case which had been remitted from the High Court. Plaintiff claimed the sum of £80, the price of a horse sold by him to Rowland Francis Meyrick and Eleanor Meyrick, of Hall Orchards, Wetherby, on May 23rd, 1913. There was a counter-claim for £12 17s. 6d., for the difference in the price realised for the sale of the horse, stabling, etc., and veterinary fee.

Mr. Harry Wray, of Hull, in opening the case, said that both parties had conferred and agreed that it was a case which should come before his Honour for trial, because of the convenience of the parties who had travelled from Dundee. York was the nearest point to the defendants' residence.

Plaintiff lived near Dundee and bred animals. He was not a professional horse dealer but a Justice of the Peace and a County Councillor. The horse in dispute was, in the first instance, described as sound and quiet. A letter of May 22nd by Mrs. Meyrick to the plaintiff said that her husband would buy the horse at £80, and he would be pleased to have it "vetted" first. That, he suggested, constituted a bargain. The horse was duly delivered to the defendant's home. When despatched it was in perfectly sound condition.

Mr. N. Crombie, of York, for the defendants, said his case was that the horse was not sound, and suffered from malformation of the hocks. It was represented as sound, and he therefore alleged breach of warranty.

Mrs. Meyrick stated that she arranged to purchase the animal from Mr. Durkie on the representation that it was clean, sound, and quiet. Immediately the horse arrived it was examined by a veterinary surgeon. Her husband did not like the animal, and it was returned as unsound and suffering from "curb" bone. The agreement when the horse was purchased was that it should be sound and quite fit for hunting purposes, for which it was required.

By Mr. Wray: Witness said she purchased the animal. Her husband was opposed to her buying the horse. Subsequently she wrote stating that her husband would buy the horse for £80, at the same time asking for it to be "vetted." She further asked if it was sound. She could not now state that when she first saw the horse it had two "curbs," but certainly there was one. Although at first she wrote stating that she was disgusted, she yet expressed her wish to see it again.

In answer to his Honour, Mr. Wray said his client did not sell the horse on a warranty.

Mrs. Meyrick's evidence was corroborated by three veterinary surgeons from Leeds, Messrs. G. E. Bowman, A. W. Mason, and Samuel Wharam; and by Mr. Meyrick, all of whom spoke to the animal having a

"curb" when seen and examined by them, and which, in their opinion, must have been of considerable standing, and could not have been "sprung" on the railway journey or whilst in Mrs. Meyrick's possession.

Plaintiff said he bred the horse in question; it was by Akbar, a super-premium horse. During the time the horse was in his possession it had never been treated for faulty hocks. He himself was a Member of the Royal College of Veterinary Surgeons, and had lectured at Aberdeen University. The animal was good when it left his place at Dundee, but when he saw it again at York, he was certain that it had been "treated." There was no malformation of either hocks. It had highly developed bones, which would give it more strength.

By Mr. Crombie: When he bought the horse back he found out the state of the hocks, and was certain it had been "treated." Mr. W. Hunting had not told him that the animal was unsound. Mr. Hunting had since died. "Sound and quiet" was a proper description of the animal. There were many forms of malformation.

Mr. Crombie: It is said that people breed for profit, but you say you do not.

Witness: Well, I do not.

Alexander Frederick Durkie, surveyor, son of the plaintiff, said he had ridden the horse in question. Witness knew the horse from birth. It had never had a "curb" whilst in his father's possession, and had never been blistered. The horse had always been healthy and had never been "sick or sorry" for one day. Witness travelled with the horse. It did not suffer from a "curb."

Andrew Spreull senior, partner of Messrs. Spreull and Sons, veterinary surgeons, stated that in May last he saw the horse in question. He submitted it to a very close and searching examination, and gave a certificate that it was perfectly sound. At that time there was not a "curb" on either hock, nor was there any sign of the hocks having been treated. At the time of his examination there was no fulness or malformation of the hocks. The bones were largely developed. Witness saw the horse after its re-sale, and the condition of the hocks then was due to it having been in the railway truck. The large bone of the hock had a tendency to strengthen the legs, rather than to weaken them. Witness asserted that in answer to a letter since the examination he stated that the hocks were sickle shaped.

John Duncan, coachman to Mrs. Ogilvie, sister to Mrs. Meyrick, said the horse was quite in good condition when he saw it in August.

Thomas Matthew Inglis, M.R.C.V.S., of Forfar, veterinary surgeon to the Board of Agriculture, said that on March 2nd last he examined the horse in question. He found both hocks sound. His opinion was that "once a curb always a curb." The bones were prominent, but this was not malformation. It was a common thing to be found in blood horses, and did not affect the soundness of the animal.

John James Ridley, M.R.C.V.S., veterinary surgeon to the East Riding Yeomanry, gave similar evidence to the last witness. He examined the horse on June 10th.

James G. Dean, M.R.C.V.S., Bishop Auckland, also gave similar evidence.

Mr. Harry Wray, in addressing His Honour, contended that the horse was fit and well when it was delivered. This was borne out by the certificate of soundness that was obtained prior to its despatch. He would not suggest for one moment that anything wrong had been wilfully done to the animal.

His Honour intimated that he did not wish to hear Mr. Crombie in reply.

JUDGMENT

His Honour, in giving his decision, said it was one of those cases in which there had been a misunderstanding

between the parties, and one that it was very difficult to decide. It would have been better if Mr. Wray had had a jury. It was, he thought, unfortunate that the case should have been imposed upon him (the Judge). It should have been tried in Dundee. With respect to the witnesses on either side, he said there was a direct conflict of evidence. After carefully reviewing the evidence, he found for the defendant on the claim and on the counter claim, with special costs.—*The Yorkshire Herald*.

The Cambridge Field Laboratory.

Under the direction of several of the University professors a field laboratory has been started about a mile outside the town of Cambridge. It is arranged on entirely new lines, and is designed to bring together into close association the subjects of agriculture, biology, and pathology—or, in other words, veterinary science and medicine.

The work on tropical diseases has shown that certain of the larger animals act—as in the case of the big game in Africa—as reservoirs of poison. Veterinary science in the tropics has therefore become a part of medicine. even as medicine has become a part of veterinary science.

In this country we have such plagues as swine fever, foot-and-mouth disease, and redwater fever, all of which may have distinct bearing on human ailments; bovine tuberculosis, which in the view of many investigators does have such a bearing; typhus fever, which has been proved to be connected with body parasites; anthrax, actinomycosis, and some others.

In these circumstances the need for study along converging lines is obvious. At Cambridge every effort is made to keep the various departments in close touch. The farm is built round a central administration block of buildings, and though each department has a separate laboratory every facility is afforded for interchange of ideas. In the biological department some highly important investigations on tick-propagated diseases are being carried out by a very great authority on this subject which affects rabbits, cattle, and deer, and in Africa as East Coast Fever, which affects, amongst other animals, cattle, horses, and dogs.

There is a large collection of animals at the field hospital, including dogs, cows, a "salted" or infected horse from the Transvaal, and a jackal. It has been shown that the tick diseases of most animals are peculiar to them and cannot be transmitted from one species to another. It has also been demonstrated how enormous are the difficulties to be faced in preventing spread from infected to clean herds.

An illustration of the voracity of these insects is exhibited in a snake upon the neck of which a tick has fixed itself. Apart from the disease which they carry, the ticks may occur in such swarms that animals are bled to death by them—as occurred some years ago in a deer park in Cornwall.

The agricultural side of this work is being developed in connection with various dips which may be relied upon to kill the ticks. Dipping troughs are a feature of the farm, and experiments are at present being carried out with preparations of arsenic.

To a question, "Why do you work so much on diseases connected with hot climates?" one of the investigators replied, "Because we can get funds for tropical work. Money for home disease work is simply not forthcoming, and we have to be exceedingly careful, since these experiments cost a great deal."

Next to the biological section is the section devoted to pathology. Here a well-known investigator conducts a series of experiments on lupus, and has already succeeded in showing that when inoculated into animals

this disease produces a true tuberculosis. Lupus is often of bovine origin and may be caught from milk. Very strong evidence in favour of the idea that tuberculous milk is a highly dangerous commodity has been produced. Attempts are now being made to obtain a vaccine which shall confer immunity from the disease upon a number of monkeys.

Experiments are also being conducted upon the question of fecundity, and a South American drug, Yohimbin, is being extensively tested.

The field laboratory contains an operating theatre, where surgical operations are carried out upon some of the smaller animals, like dogs, goats, and calves. A beautifully-fitted post-mortem room completes the equipment of the farm.—*The Times*.

The Horse Owner and the Motor.

In a paper read by Mr. J. Gibbins at the annual meetings of the National Union of Horse and Vehicle Owners, and from which the following excerpts are taken, an attempt is made to forecast the immediate future of the question of the use of horse traction:—

"The profitable nature of a change from horse traffic to motor traffic depends upon the volume of horse traffic displaced, the relative cost of each, and the volume of traffic to be gained; in other words, what work can be guaranteed your horses, what are the receipts per mile covered, what is the cost per mile, and what are the corresponding costs for motors.

It must always be borne in mind that the situation will probably change from time to time, and that the horseowner, who has also become a motor owner, may find that his former anticipations with regard to the maintenance of his horse traffic have been too optimistic.

In the paper I had the honour of reading before you two years ago at Manchester, one opinion I gave was that the horse had an advantage in cases where the work to be done consisted of a small mileage, or light loads, and lengthy periods of waiting. In so far as it affects the horse hire contractor, I consider that while the proposition is perfectly true to-day, a great change has occurred even during the last two years. There are several things which have operated in favour of the introduction of motor vehicles to replace horses, quite apart either from first cost or the cost of running and maintaining.

One is that a business man nowadays dislikes the term "old-fashioned." He believes, as he says, in going with the times. The more conservative of tradesmen hang back until they feel that they have to go with the swim, and, although perhaps with reluctance, the first experiment is taken simply because a competitor has already taken the plunge.

It is also a fact that the increased expenses thus incurred are often justified by an increase of trade secured by the quicker and more frequent deliveries, by the advertising value of the motor vehicle, and, what is perhaps of most importance, the much greater distance and area covered in one day.

The motor char-a-banc and motor cab introduced by a proprietor has the effect of causing his neighbour to think he is getting left behind. The result may be good or it may be bad for either or both. The new method will inevitably compete against the older, and when both horse vehicles and motor vehicles are run by one firm the proprietor must make up his mind, so far as his horses are concerned, to suffer the competition not only of his neighbouring motor proprietor, but also of himself. He must, therefore, like the tradesman, consider whether the new traffic he obtains from the

employment of motors is enough to compensate him for either the entire loss of his horse traffic receipts, or for the partial transfer of his own motor vehicles. He must also consider the percentage of costs compared with the receipts in each case.

Another branch of hiring also may be alluded to. Although motor funerals are not common occurrences, quite a considerable number of so-called motor hearses are now being employed both in London and the provinces. A motor conveyance to convey bodies long distances is an adjunct to the business of a funeral carriage master, possessing its advantages; and if the use of it is confined to competing with the railway companies this innovation has not the fault of competing with the horse. But here, again, there is a strong probability that competition will step in against the horse-owner in time, and that a purely motor business will also seek to enter into this class of traffic, and not possessing the stock of horse vehicles will have no compunction in creating a fashion for the employment of motor *laudau-lettres* to take the place of funeral broughams.

The problem of the horse supply is bound up with its profitable use, and it is undoubtedly a national problem, because of its use in agriculture, in the Army, and under many conditions in commerce. Being a national problem, it is necessary for unfair restrictions to be removed, and the incidence of taxation adjusted, so that the burden is lifted from the shoulders of the horse owners.

I have not touched upon the heavy horse traffic and its relation to motor developments. There has, however, been a rapid development during the last twelve months; brewers, millers, furniture removers, and manufacturers of all kinds who formerly looked askance at the petrol or steam lorry, are now buying them freely, and the owners of heavy horses will know better than I do what effect this has had upon their business, and in what manner it is being met. It must not be forgotten that the success of the motor car during the last five years has been greatly accelerated by the great prosperity the country has enjoyed. Good judges are of the opinion that the tide of prosperity is receding. When the slump does occur, the receipts of the owners of motor vehicles will be materially affected, and the value and the economy of motors employed as a trade accessory will be considerably less on a reduced turnover. In the past the carriage master and the carting contractor have been among the first to feel the effects of bad trade, and the motor proprietor and motor builder will also come in to bear the first pinches of adversity.—*The World's Carriers*.

The Zigaya Sheep.

A bulletin from the International Institute of Agriculture describes the Zigaya sheep. The predominant breed for the production of wool in the south-east of Europe, and particularly in the Balkan countries, it is also bred for meat and milk. The wool of the thoroughbred is pure white, and at one time extensively exported to Western Europe. Pure breeding has been much neglected, and most of the wool is grey or streaked with black. At one of the State breeding establishments in Hungary the average live weight of rams two years old is 94½ lb., of ewes in milk 77 lb. to 86 lb., old rams may reach 132 lb. to 143 lb., and old ewes 97 lb. to 110 lb. The rams are almost always horned, and the ewes hornless. This sheep has a small head, with a tapering muzzle, face and legs are usually covered with stiff black hairs. The horns of rams are ringed and curved in a spiral. Cross-breeding to improve wool or yield of milk or meat has been practised to a limited extent.—*Live Stock Journal*.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.		Out-breaks	Slaugh-tered.*
	(a)		(a)		(b)		(b)			(a)	
IRELAND. Week ended March 14	...	...	8	33	...	...	1	...	11	3	16
Corresponding Week in {	1913 ...	...	...	...	...	...	2	...	4	1	4
	1912 ...	...	...	...	...	...	1	...	14	5	41
	1911 ...	...	...	...	1	1	2	...	5	1	3
Total for 11 weeks, 1914	...	...	36	452	...	...	26	...	239	47	284
Corresponding period in {	1913 ...	...	...	...	...	...	68	...	188	37	188
	1912 ...	1	1	...	...	...	25	...	195	35	286
	1911 ...	3	3	...	...	1	27	...	183	31	586

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, March 16, 1914
 NOTE.—The figures for the Current Year are approximate only * As Diseased or Exposed to Infection

Edinburgh Milk Supply.

At the annual dinner of the Royal (Dick) Veterinary College held recently Professor Gofton, in proposing the toast of "The City of Edinburgh," referred to the question of tuberculosis and its treatment and preventions in the city. They knew, he said, that the city, so far as the treatment of tuberculosis in human beings was concerned, occupied the first place certainly in Great Britain. But there was another aspect of the tuberculosis question, in which the city was certainly behind the times. The attention of the city and its inhabitants must have been very strikingly drawn to the question of the prevention of tuberculosis from animal sources within the last few weeks by the publication in the daily Press of facts which were known to those, at all events, who had been in touch with the various workers some time before. It appeared that, roughly speaking, about 15 per cent. of their milk supply contained living tubercle, and that compared with other cities Edinburgh was twice as bad as the average of the cities in the United Kingdom. If that was the case, it indicated clearly that the city had room for advancement and progress. Edinburgh had been the first city in the United Kingdom to have a veterinary staff to carry out meat inspection, but it seemed to him that the city had not quite kept the pace in other respects in connection with tuberculosis.

Councillor Young, in reply, said the question of the milk supply and the question of meat inspection were under consideration at the present time by the Committee over which he presided. He had made inquiries as to the method of inspection adopted with regard to the milk which came into the city of Edinburgh. He was informed that periodically a large number of samples were taken of all the milk that was brought into the city, and carefully tested at the Usher Institute of Public Health. He saw Professor Hunter Stewart, the head of the Institute, who informed him that all the samples received up to date had given negative results, with some two exceptions. If the system of sampling was satisfactory, then we would be compelled to turn attention to the milk which was produced. There he found that all the cows in the city, some two thousand of them, were inspected by a veterinary inspector once in four weeks at the outside, and that the milk in Edinburgh ought to be as germ free as it was possible to be. But the milk which was sold in the shops was not as satisfactory as it ought to be, and the Public

Health Committee were determined to find out how that could be remedied. The city of Edinburgh possessed certain powers which seemed to him quite unsatisfactory. If an inspector found a cow that he had reason to believe was tubercular, all he could do was to order the cow's removal, and the animal was traded off into some part of the country where veterinary inspection was not so close as in the large cities. It seemed to him that they not only wanted perhaps better administration in the city, but they wanted legislation to get at the root of the whole matter, and enable them to stamp out tuberculosis in cattle. That was one of the great tasks which lay before the veterinary profession.

Regeneration of the Testis.

Mr. C. J. BOND has recently published the results of some interesting experiments on the effects of orchectomy in birds (*Journ. Genetics*, 1913, iii, 131). In a paper which appeared in the *B. M. J.* July 21, 1906, Mr. Bond showed, among other results, that the removal of one ovary in the rabbit is followed by compensatory overgrowth of the remaining ovary. While investigating the question whether a similar compensatory hypertrophy occurred in the case of removal of one testis, the author was led to the interesting discovery that after apparently complete intracapsular removal of a testis, regeneration of the secreting tissue and tubuli seminiferi occurred *in situ*. It is of interest to note that this result only applies to birds, no evidence of any similar intracapsular regeneration having been obtained in mammals. Mr. Bond points out that "the domestic fowl has undergone a process of artificial selection in regard to the egg laying capacity of the female sex gland, and probably also in regard to the sperm-forming capacity of the male gland, hence it is of interest to find that the testis of the domestic fowl has great powers of structural and functional regeneration after partial removal, greater apparently than exists in mammals." It is naturally a point of great interest to determine whether, from the gametic standpoint, the regenerated sex gland differed from the previously existing structure. To test this Mr. Bond crossed the same female with a male before and after orchectomy. The experiment performed on fowls revealed no difference between the offspring before and after operation on the male parent. In the case of two experiments on pigeons some differences of a fairly definite character were noted,—*Brit. Med. J. nrl*;

Helminths and Cancer.

In a memoir recently published, Dr. Johannes Fibiger brings forward strong evidence in support of the view, by no means novel, that the lesions of the tissues produced by parasitic worms may act as the starting-point for the development of cancerous growths and tumours, the author found in wild rats a disease of the oesophagus and stomach characterised by an epithelial proliferation and inflammation leading, in pronounced cases, to a papillomatous growth which was the precursor of a malignant epithelioma. Examination of the primary lesions revealed the presence of a nematode worm, an undescribed species of spiroptera.

From a series of experiments it was concluded that cockroaches (*Periplaneta americana* and *P. orientalis*) serve as intermediate hosts for the spiroptera. The cockroach becomes infected by ingesting eggs of the worm which are passed out in the excrement of the rat; the eggs develop in the cockroach and the embryos of the worm become localised in the striated muscles of the prothorax and the legs. The rats become infected by eating cockroaches, and the embryos of the worm, set free from their cysts, attack the epithelium of the stomach, sometimes also that of the oesophagus or buccal cavity, and develop into the adult nematode, the cause of the lesions already mentioned. From his investigations the author concludes that all anatomical alterations are due to toxic products of the nematode. From the primary lesions caused by the nematode secondary metastases may be produced in other organs. The metastases contain neither the parasite nor their eggs. The development of the metastases is ascribed to the faculty of the epithelial cells to multiply in other organs independently of the parasite. The author thus confirms the view put forward by Borrel and others that nematodes may produce malignant tumours in rats and mice, and considers it not improbable that in human pathology also cancerous tumours may owe their origin in some cases to the presence of helminths.

Foot-and-Mouth—A Lesson from the Past.

A correspondent to *The Scotsman* writes:—

"In view of the present outbreaks of foot-and-mouth disease in England and Ireland, and the outcry in some quarters against the restrictions imposed, the recollections of an incident in a former outbreak in the 'seventies' may not be out of place.

The gentleman who relates these particulars was at that time in charge of the sheep stock of an extensive holding in the South of Scotland, when the ewe stock numbered sixty-eight scores, and the lambing time had just commenced when the fell disease made its appearance. "It was," says this veteran, "the worst business I ever tackled. The ulcerated condition of the mouth and of the feet, led to many ewes going off their food, and off their feet, and lambs were unable to suck, partly because of the sores on their mouths, and partly because their dams refused to rise. Many of the ewes that were infected before lambing did not survive, but with very few exceptions those that had lambed before infection came safely through the trouble. The death-rate was very heavy, and when the flock was again sound there was found to be a shortage of nearly thirty score of lambs, and among the remainder were many that fell far below the usual quality and condition. In addition, quite a number of the ewes suffered constitutionally, so that they could not be retained in the flock, and had to be cast as shots."

Those who have not known such trials are apt to minimise the consequences of an outbreak, and are inclined to cry out against restrictions imposed with a view to

preventing the spread of the disease. But surely it is infinitely better to suffer some little hardship and privation rather than run the risk of introducing such a disease at the present critical time when lambing is just commencing. In this instance surely the first loss is the least, and any slackening of the regulations can only be playing with fire.

Addresses Wanted.

The following list of names appears in the recently published Register of Veterinary Surgeons:—

Name.	Last address known.
Bell, E. W.,	53 Jeffreys Road, Clapham, S.W.
Blakely, John,	Elm Street, Rye, New York, U.S.A.
Blane, W. T.,	Castle Donington, near Derby.
Boase, J. T.,	Cotswold Chambers, Church Square, Cape Town, South Africa.
Cakebread, W.,	De Burgh House, Fairholt Road, Stamford Hill, N.
Dowdall, Arthur,	Stafford Street, Longton, Staffs.
Duff, James A.,	Glen Arthur, Duddingston, near Edinburgh.
Garrett, Richard,	Tubercurry, Co. Sligo.
Gorman, James,	24 Major Street, College, Toronto, Ontario, Canada.
Goundry, Charles,	G.V.S., Malmesbury, S. Africa.
Houston, David Spiers,	Westvale House, Port Glasgow.
Kelly, Vety.-Capt. Edward Harvey,	late A.V.D.
Ledger, Wm.,	Chicago, Illinois, U.S.A.
McLeod, J.,	Christchurch, New Zealand.
Macqueen, L. H.,	Watrous, Saskatchewan, Canada.
Magill, Jos. May,	Carpenterstown, Castleknock, Co. Dublin.
Meek, Ben. O.,	7 Bridge Street, Sydney, Australia.
Moir, Geo.,	G.V.S., Taiping, Perak, Federated Malay States.
Newbury, Thos. S.,	3 Palmerston St., Devonport.
Owen, G. E.,	c/o Department of Agriculture, Sydney, N.S.W., Australia.
Rix, C. E.,	7 Gubyon Avenue, Herne Hill, S.E.
Shacklock, J. Edward,	Castor, Alberta, Canada.
Smith, T. Assheton,	Kellerberrin, West Australia.
Welham, J. B.,	Sports Club, St. James Sq., W.

REVIEWS.

"THE CHEMISTRY OF CATTLE FEEDING AND DAIRYING." By J. ALAN MURRAY, B.Sc. (Edin.), Lecturer in Agricultural Chemistry at University College, Reading. London: Longmans, Green & Co. 6s. net.

The first part of the book is composed of chapters on the "Constituents of Plants and Animals," in which the author sets forth the classification and composition of the various mineral and organic constituents connected with feeding. The chapters on fats, amides, and proteins will be appreciated. The chemistry of proteins is a subject in which the ordinary agricultural chemistry student is not, as a rule, well informed, and an intelligent reading of this chapter will form a solid basis for a future superstructure. Mr. Murray devotes two chapters to Statics and Dynamics, subjects, which in dealing with the requirements of animals, have not received due justice among scientists in this country. It has been left to Germany to devise the respiration chamber experiments, and much of the world's most valuable work of this character has been done in that country. The author demonstrates the theories on which such experiments are based, and though this is usually the physicist's domain, we agree that it is advisable to include it in the book for those who have not had the opportunity of obtaining such knowledge.

When these chapters have been fully read the student should be ready to recognise the advantage of having the tables on the thermic and dynamic values of various foods, and their approximate cost. The articles on the constituents required for the production of meat and milk are fundamentally the same as those of previous writers, but there is wisdom in separating the maintenance from the fattening rations. As the author points out in calculating these rations, the two should be kept quite separate, and not considered in combination, as in former calculations. A table giving the average composition and price of various foods which are most used by farmers is added. Part III. deals with feeding stuffs, their analyses, methods of compounding, and valuation. It deals connectedly with the different merits, and emphasises the value accruing from method. Part IV. deals with Dairying, and it is treated very fully. The author gives a very interesting chapter on "Chemical Constituents of Milk." The paragraphs on preservative methods should be useful to students. The chapter closes with an account of an "Infants' Bottle Milk," a preparation which is now sold as "Humanised Milk." The book closes with a chapter on milk products and their analyses. To students preparing for examinations in agricultural chemistry there is hardly a more suitable work on scientific feeding. To farmers, except those who either by college or self-training are able to adapt scientific knowledge to their own needs, the book is not to be recommended.

SPECIAL PATHOLOGY AND THERAPEUTICS OF THE DISEASES OF DOMESTIC ANIMALS.—By DR. FRANZ HUTYRA, Professor of Infectious Diseases, and DR. JOSEF MAREK, Professor of Special Pathology and Therapy, both of the Royal Veterinary College at Budapest. Authorised American Edition, from the third Revised and Enlarged German Edition. Edited by John R. Mohler, V.M.D., and Adolph Eichhorn, D.V.S., both of the U.S. Bureau of Animal Industry, Washington. Vol. II. Translated by Maximilian Herzog, M.D., Professor of Pathology and Bacteriology in the Chicago Veterinary College, A. Leslie Sheather, M.R.C.V.S., B.Sc. London, England, and G. Mayall, M.R.C.V.S., Bolton, England. With 163 illustrations in the text and 5 plates. Ps. xvij. + 1018. Royal 8vo. Price £1 11s. 6d. net. (Baillière, Tindall & Cox, 8 Henrietta Street, Covent Garden, London).

This second volume of Hutyra and Marek's great work is almost as lengthy as the first one, and will probably be even more valuable to English clinicians. It is devoted to the diseases of the respiratory organs, the digestive organs (including the liver, pancreas, and peritoneum, the central and peripheral nervous system, the organs of locomotion, and the skin). It thus embraces a greater number of the conditions usually seen in everyday practice here than the first volume, which was chiefly concerned with infectious diseases, many of them unknown in this country.

All that we said of the general excellence of the first volume, in reviewing it a few weeks ago, applies equally to this one. The same depth and comprehensiveness of view, combined with breadth and equality of treatment, mark both volumes. Naturally the whole is not all of equal merit, and if we were to choose the portions likely to be most valuable to English readers, we should name a good many of the short sections upon equine and bovine gastro-intestinal troubles, and the bulk of the two hundred and odd pages upon nervous diseases. Regarding the former, it is needless to say that Marek's stomach tube—an instrument scarcely known in this country except by hearsay—is fully figured and described, together with the method of using it.

Further, the general diagnosis of abdominal troubles, especially perhaps rectal diagnosis, and manipulative treatment by the rectum, have been more closely

studied abroad than here, and this book contains the sum of Continental knowledge upon them. If its teachings are largely acted upon by our graduates, it may bring great changes into the treatment of the equine colics in this country. All that need be said of the pages upon nervous disease is that there are few important subjects regarding which practitioners generally stand in more need of accurate information, and the present account strikes us as on the whole the best and fullest we have seen.

The translation is good and clear, but the translators have introduced one or two words which we should be sorry to see established in our veterinary literature. For instance, such a word as "bloating," which is constantly used to signify emphysema and tympany alike, might surely be improved. On page 254 we notice a misprint—"sows" for "cows."

There are multitudinous points of interest in the book, and in many cases the views advanced are not in accord with English ones. For instance, in connection with obstruction of the œsophagus by a foreign body, we see no mention of the old English plan of small doses of oil *plus* patience, while some of the methods advised in its stead would strike many men as dangerous. Again, while Schmidt's milk fever treatment is recognised as valuable, it is suggested—not without reason—that its value may have been over-estimated. But the book covers so vast a field—including many little known as well as well-known conditions—that it cannot well be treated in detail, and it is best to summarise it by saying that it is a worthy successor to the first volume. Taking the two volumes as one work, we know of nothing in veterinary literature to compare with it for value. And, valuable as it is to the student, it should be even more so to the man in practice.

W. R. C.

PARLIAMENTARY.

In the House of Commons on Thursday, March 24th

Mr. CHARLES BATHURST, asked the President of the Board of Agriculture if there is any information available as to the possibility of preparing a diagnostic vaccine for John's disease from the causal bacillus, and whether he is aware that no public report has been issued upon this subject since September, 1912.

Mr. RUNCIMAN: The inquiry into John's disease, which is being conducted by the Royal Veterinary College, includes the question of diagnosis, and a large number of experiments and observations with regard to the relative reliability of different methods of diagnosis, including the use of "Johnin"—a test substance prepared from the causal bacillus—have been made. It is, however, considered advisable to obtain further evidence, and with this object "Johnin" is now being supplied gratis to veterinary surgeons for testing animals suspected of this disease. The College will publish a report on the subject as soon as the evidence collected appears to be sufficient to warrant definite conclusions.

March 19th.

FOOT-AND-MOUTH DISEASE.

In answer to Mr. C. BATHURST,

Mr. T. W. RUSSELL said:—The present position as regards foot-and-mouth disease in Ireland is as follows:—There were five fresh cases on Wednesday in scheduled districts in Cork—one in the city, one at Whitechurch, and three at Blarney. The disease does not appear to be active elsewhere. The real difficulty of the situation is in connection with consignments of calves that were sent from Cork to various places in the south. In five cases these animals were traced and disease found. In others the work of tracing is still going on in counties Waterford, Wexford, and Kilkenny,

but no outbreak has been reported. This difficult work has involved the scheduling of large areas of the country as a measure of precaution. But I trust the quest for these animals will soon be over and the country freed from the restrictions now imposed. In every case of disease it has been found to be connected with the cattle sale in Cork late in February.

Foot-and-Mouth Disease.

An outbreak of foot-and-mouth disease was confirmed on Thursday, March 19th, amongst cows on dairy premises in the Kirkdale district of Liverpool, and another outbreak was confirmed on Friday, the 20th, on similar premises in the Fairfield district of that city. Restrictions on the movement of animals have been in force in the city and surrounding district since the 23rd ultimo.

Another outbreak of foot-and-mouth disease was reported in Cork on Saturday, March 21st, within half a mile of the city.

The Board of Agriculture and Fisheries have been informed by the Department of Agriculture and Technical Instruction for Ireland of the issue by that Department on 25th inst. of an Order, the effect of which is to prevent the movement of animals, by sea or by land, from the southern part of Ireland into the northern part of Ireland. The boundary line between these two areas is approximately represented by the line joining the following towns: Drogheda, Navan, Oldcastle, Finnea, Mullingar, Moate, Athlone, Ballinasloe,

Athenry, and Oranmore. This Order will come into operation on 27th inst.

In consequence of this action, and in view of the general position as regards foot-and-mouth disease in Ireland, the Board have decided that they may now safely allow the importation of animals for slaughter from the northern area, and they have accordingly to-day made an Order authorising the landing of animals brought from the Irish ports of Dundalk, Belfast, Londonderry, and Sligo, to the authorised landing places at Birkenhead, Glasgow, and Manchester, where they will be required to be slaughtered within 96 hours after their landing. The Board's Order will take effect on Tuesday, 31st inst., and will thus permit of the shipment of animals from the northern area in Ireland on Monday night.

4 Whitehall Place, London, S.W.

March 26th.

Motor Taxes: Petrol Rebate.

In connection with Capt. A. C. Wilson's letter on this subject last week, we find that the matter has been mentioned in *The Veterinary Record* at the following pages:—

Vol. 21. May 8, 1909, p. 763: and pp. 772, 780, 793, 831, 845, 878-9.

Vol. 22. July 17, 1909, p. 68: and pp. 172, 248, 254.

Vol. 23. Sept. 24, 1910, p. 191: and pp. 208, 237, 364, 392, 442, 446-7, 463, 513, 540, 629, 671, 722.

Vol. 24. Aug. 5, 1911, pp. 94-5.

Vol. 25. Sept. 7, 1912, pp. 134-5.

Vol. 26. Oct. 18, 1913, p. 260: and pp. 294, 340, 384, 461, 524, 624.

DISEASES OF ANIMALS ACTS 1894 to 1911, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.		Outbreaks	Slaughtered.*
	(a)		(a)		(b)		(b)		(b)	(a)	
GR. BRITAIN.											
Week ended March 21	19	20	2	9	2	4	47	65	8	78	633
Corresponding week in											
1913 ...	11	14			1	3	67	120	3	34	371
1912 ...	24	25			6	11	67	180	6	67	694
1911 ...	14	17			2	3			5	61	630
Total for 12 weeks, 1914	228	243	11	74	25	67	915	1725	130	687	6149
Corresponding period in											
1913 ...	158	175			36	111	942	2004	100	408	4762
1912 ...	304	334			42	93	1464	3438	140	724	8850
1911 ...	244	281	1	18	48	179			275	462	5213

(a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked: Durham 1, London 3. Board of Agriculture and Fisheries, March 24, 1914

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.		Outbreaks	Slaughtered.*
	(a)		(a)		(b)		(b)		(b)	(a)	
IRELAND. Week ended March 21	1	2	11	53	...	...	Outbreaks 2		37	4	6
Corresponding Week in											
1913 ...	...	...	...	...	...	...	3		11	...	16
1912 ...	...	...	...	...	...	...	2		6	9	40
1911 ...	...	...	...	...	...	...	2		14	1	71
Total for 12 weeks, 1914	1	2	47	505	...	...	28		276	51	290
Corresponding period in											
1913 ...	...	...	...	...	...	...	71		199	37	204
1912 ...	1	1	...	...	...	...	27		201	44	326
1911 ...	3	3	...	...	1	1	29		197	32	657

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, March 23, 1914
NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

Hunting Memorial Fund.

Subscriptions received up to 7 p.m., March 25th, 1914

	£	s.	d.
Amount previously acknowledged	266	6	6
Lieut. H. D. Lewis, A.V.C., Meerut, India	10	6	
Eastern Counties V.M.S., per A. Holl, Esq., Hon. Sec. & Treas., New Buckenham	5	5	0
Mr. Thos. Russell Jarvie, Gateshead-on-Tyne	1	1	0
Central Canada V.S., per T. C. Evans, Esq., v.s. D.V.Sc. (Tor.), Ottawa	5	5	0
Major A. Smith, I.C.V.S., Principal, Bengal Veterinary College	1	1	0
North Wales V.S. per Richard Jones, Esq., Towyn, Merionethshire	3	3	0
Mr. A. M. Howie, C.V.S., Umtata, S. Africa	1	1	0

£283 13 0

HENRY GRAY, Hon. Sec. & Treas.

23 Upper Phillimore Place, London, W.

Cheques endorsed "Hunting Memorial Fund" and
crossed "The London, City and Midland Bank, LtdCENTRAL CANADA VETERINARY ASSOCIATION.
(Established 1903).

8 Hartington Place, Ottawa, March 4.

Henry Gray, Esq.,

Dear Sir,—I beg to inform you that at the last annual meeting of the Central Canada Veterinary Association, held in the city of Ottawa on January 23, 1914, the members expressed their deep regret over the great loss the veterinary profession throughout the world has sustained in the death of Mr. William Hunting.

They felt that although they had not the honour of knowing him personally, they knew him through his various works, and admired him. In virtue thereof it was resolved that in view of the great benefit the profession has experienced through his labours they would like to assist you in your very commendable movement. Unfortunately, the funds of this Association are limited, but its members hope you will be good enough to accept this small subscription as a small token of their appreciation of one who worked unceasingly and unselfishly for the betterment of his profession, and whose accomplishments will make his name an honoured one for future years—Very sincerely yours,

(Signed) CHARLES EVANS, Sec.-Treas.

ARMY VETERINARY SERVICE.Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, March 20.

REGULAR FORCES. ARMY VETERINARY CORPS.

Lieut. W. St. J. F. McCartney is seconded for service with the Egyptian Army. Dated Feb. 1.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Lieut. T. Bell ceases to hold a commission in the T.F. Dated March 21.

Personal.

LEECH.—On 23rd March, at "Penlee Point," Kennington, Ashford, Kent, Winnie (née Hill), wife of the late Herbert William Leech, M.R.C.V.S., (died Feb. 16th, 1914), of a daughter.

Prof. METTAM has been elected to the Council (Committee of Science) of the Royal Irish Academy.

The following gentlemen have obtained the Diploma in Veterinary State Medicine, at the University of Manchester:—

Messrs. JOHN FACER, WILLIAM HALSTEAD, THOMAS MENZIES, H. L. TORRANCE.

MPoultry Diseases and their Treatment. [Veterinary Medical Series, No. 2]. Edit. D. M. Campbell. By B. F. Baupp, M.Sc., D.V.S., Commissioner of Health, Spartanburg, South Carolina; Professor of Pathology, Division of Veterinary Medicine, Colorado Agric. Coll.: Chairman of Committee on Diseases of the American Veterinary Association, 1911, Chicago.—*Amer. Journ. of Vet. Med.*, 1914.

Veterinary Societies—Addresses.

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THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1343.

APRIL 4, 1914.

VOL. XXVI.

BOARD OF AGRICULTURE—THE CHIEF VETERINARY OFFICER'S REPORT FOR 1912.

In one direction this is one of the most valuable reports the Board has ever issued, in some others it is almost one of the baldest. Its value lies in its excellent account of the foot-and-mouth epidemic of 1912, which occupies all but about 4½ pages of the publication. "Foot-and-mouth" deserves all the space it receives, but the addition of a few more pages upon other diseases would have given the report much more value as a whole.

The matter concerning foot-and-mouth disease, which might have been very confusing to the reader, has been arranged very clearly. All the 1912 outbreaks in this island are divided into three groups—(1) Outbreaks which occurred in cattle from Ireland, or in cattle which had come in contact with the latter. (2) Outbreaks whose origin could not be definitely traced, but which occurred in districts into which cattle from Ireland have been imported in large numbers. (3) Outbreaks in which no connection whatever could be traced between importation of cattle and disease. The single outbreaks in each of these groups are carefully described in detail from the point of view of preventive medicine, special attention being paid to the important work of tracing the infection. Very often, in dealing with an individual outbreak, the reasons which guided the Board in deciding upon the precise rigour of the measures to be adopted are explained, and the report therefore abounds with illustrative examples of practical epizootiology. Some of the outbreaks, as the Sussex ones, are eminently instructive. The Chief Officer calls the final result of the year's work "a triumph for stamping out measures, when rigidly applied from the outset," and the facts justify his claim. But we wish that he had been able to give us some definite facts with regard to "those outbreaks which have been so numerous in recent years, and which we have every right to assume have been imported from the Continent in food stuffs or packing material, or in some other way." So long as our knowledge of the channels of infection from the Continent is so vague as this, we may expect fresh invasions of disease at any time, and it is well for us that our stamping-out measures are reliable.

Incidentally the report reveals that our English methods of veterinary inspection of markets are pitifully inadequate. In some concluding remarks upon the whole of the first group of outbreaks we find:—"It will be observed that most of these outbreaks were due to market infection, and it does not seem open to doubt that in some cases actually diseased animals were exposed for sale in markets. This leads us to ask if the distribution of disease

would not have been materially curtailed by provision of more adequate veterinary inspection of local markets? I think the answer must be in the affirmative, and I feel bound to point out that the veterinary inspector of one of the first infected markets informed me that his other duties left him only about forty minutes for the inspection of about 1500 animals in the market." This latter fact would be farcical if it were not also so serious—for the results are by no means confined to foot-and-mouth disease. It seems that some large markets have no veterinary inspection worthy of the name. It might be worth the while of inspectors to call the attention of local authorities to this paragraph in the report—few laymen can fail to appreciate its force.

The report deals with other scheduled diseases briefly, if at all. Sheep scab and parasitic mange are not mentioned. Anthrax receives a little attention, chiefly from the statistical side, and swine fever even less. In the latter connection reference is made to the losses from swine erysipelas, and to the fact that a good method of protective inoculation against it is available, but has not yet been taken up by pig-keepers. In the short laboratory report, we see a mere mention of researches being carried on by the Board upon several diseases—swine fever, epizootic abortion, louping ill, and scrapie. But upon the whole the last few pages of the report are not at all enlightening except as regards glanders.

The section on glanders is valuable from a careful comparison of the progress in 1912, with that of previous years. The Chief Officer points out that in 1912 the proportional decline of the disease received an unexpected check, and adds that the reason is engaging his attention. He finds one partial explanation for the check in the fact that the proportion of recurrent outbreaks in previously infected stables was higher in 1912 than ever before. This, to our mind at least, suggests that owners now keep and re-test old in-contacts more frequently than before; and if that is so the rise in recurrent outbreaks is a good sign. The Mines Act, too, led to the discovery of twelve outbreaks of glanders in 1912.

This section also contains some useful notes upon the proportional results of the mallein test, and the incidence of glanderous post-mortem lesions. If other sections had been as full as that upon glanders, the report would have been one of the most instructive we have ever had. But as it is, simply on account of its invaluable official history of the foot-and mouth epidemic, it is a noteworthy publication, and should be in the hands of every practitioner. The delay in its issue is, of course, accounted for by Sir Stewart Stockman's illness last year.

CLINICAL CASES.

FETAL DYSTOKIA.

Subject a big shorthorn dual purpose cow, presentation anterior, two fore legs, head doubled back, head could not be reached, so both fore legs were removed at the shoulders—and then we could not touch the head—could feel stifles of calf, but not head. Tracing the neck of fœtus, we cut a hole in the skin and inserted a blind hook. This drew the head forward so that I could get my hand in calf's mouth. Head straightened, calf delivered, and cow did well.

MATERNAL AND FETAL DYSTOKIA.

Subject: shorthorn heifer, first calf. Presentation anterior, head doubled back, could touch head but could not get it up. Cowman had fixed rope round lower jaw and pulled out the teeth. Could feel a band round calf's head just below the eyes, which I thought was afterbirth; removed it, and much to my surprise it was a circular band on the heifer's womb, about an inch wide, containing two cotyledons. The fore leg was removed and the calf delivered. Heifer killed on my advice.

HORN ON COW'S NECK.

While bleeding some pedigree milking shorthorns the other day I came across a small tubercle on the middle third of a cow's neck. The owner thought it was a wart. It was only attached to the skin. With his permission I cut it off and found it to be a perfect little horn, an inch and a half long, and the same shape as the cow's. Instead of a horn core it had a soft matrix, which looked like yellow firm cartilage.

VOMITION IN THE HORSE.

On March 17th last I was called to see a "chaser" which had run in our Point-to-Point (Old Berkshire), and found him vomiting all over the box. He was about 12 years old, and had previously won 13 consecutive Point-to-Points. The owner, who was riding him, found he was unwell at the start, and pulled him up after going two fields. On examining his neck I found on the lower left side of the jugular vein—not *œsophagus*—a thickening about an inch long, which felt like a stricture of the vein. The slightest pressure on this would make him arch his neck and "retch" tremendously. As we could not drench him, I gave him a hypodermic of morphia, and said would see him next morning. Next morning I had a telephone message saying the horse was alright, and was going back to Leicestershire by the 10.20 train. Had the thickening been in the *œsophagus* I could have understood the vomition, but being in the jugular vein it was a complete puzzle to me.

J. H. PARKER, M.R.C.V.S.

Faringdon, Berks.

ABSTRACTS FROM FOREIGN JOURNALS

HUMAN AND AVIAN DIPHTHERIA.

F. Arloing has published (*Bull. de Soc. Sc. Vét. de Lyon*) a long article upon this question. A long time before the bacteriological era, observation and clinical and epidemiological knowledge had permitted the supposition that the pseudo-membraneous diseases of poultry could sometimes be transmitted to man. At the present day the question of the relations between human and avian diphtheria is far from being definitely settled.

Avian diphtheria may appear in a per-acute, an acute, or a chronic form. The last named is the most common, and is characterised by pseudo-membraneous exudates, which may appear upon the buccal mucous membrane, and spread from there to the conjunctiva (ocular form) or to the pituitary membrane (nasal form). It may be caused by various microbes, which the author divides into three groups as follows:—(1) *Löffler's bacillus, the agent of human diphtheria.* (2) *Specific microbes, other than the true diphtheritic bacillus,* and (3) *Non-specific microbes.*

It is completely demonstrated that the true diphtheria of man may be transmitted to birds, experimentally or accidentally, by means of cultures or of diphtheritic material. On the other hand, the author reports facts which show that human diphtheria may be transmitted, not only to birds, but also to the pig, dog, and cat.

The bacteriological study of avian diphtheria has sometimes revealed the presence of the true Löffler's bacillus in the subjects, and sometimes that of a bacillus only differing from Löffler's by a lesser degree of virulence or by particular cultural or staining characters. Sometimes other specific microbes have been found, and sometimes, again, others without specificity. The very small microbe described by Bordet and Fally, and considered by them to be the true cause of avian diphtheria, should be remembered.

If we consider, on the one hand, the multiplicity of germs which have been described, and by means of which the affection has been reproduced, and, on the other hand, the variable results—positive in certain cases and negative in others—which have been obtained by means of the anti-diphtheritic serum, it appears logical to admit that there is not one avian diphtheria, but a number of avian diphtherias. According to the author, there exists in the bird (1) a true diphtheria, due to Löffler's bacillus, and (2) in addition to this true diphtheria, diphtheroid or pseudo-diphtheric affections which are related to true diphtheria by the similitude of their clinical symptoms, but nevertheless are due to microbes which have nothing in common with Löffler's bacillus.

The author draws a sharp distinction between the *diphtheroid exudate*, which is common to all cases of avian diphtheria, and the true *diphtheritic false membrane*, the formation of which seems to require the presence of Löffler's bacillus.

In man, the *true diphtheritic false membrane*, when fully developed, is generally opaque, greyish, verging upon white, or, if it is tinged by blood, darker in colour and sometimes brownish. It is lightly inserted in the mucous membrane, to which it adheres, and sometimes its removal causes slight hæmorrhages. *It does not disintegrate in water.*

This aspect is generally modified when the diphtheria is complicated by secondary microbial infections, the false membrane is then more diffuent and often has a putrid odour.

Histologically, the characteristic of the false membrane, which is engendered by the action of the toxins of Löffler's bacillus, consists entirely in the abundance of the fibrinous exudate, which constitutes the essential substratum of this production. The fibrin forms a network of large regular meshes, constituted by rectilinear fibrillæ. This fibrinous network is stained very deeply by eosin. Its superficial zone contains very numerous diphtheria bacilli in clusters and some super-added microbes (streptococci, staphylococci, etc.) Its middle zone contains cells that stain badly. Its deep zone contains diapedesised leucocytes, and epithelial cells which are still little altered, and have come from the subjacent mucous membranes. The latter appears congested and stripped of its covering epithelium.

In *false membranes due to Löffler's bacillus* in animals—whatever the species of animal that is concerned—one always finds identical reactions due to the specific action of the bacillus, and particularly the production of a *very important fibrinous network* upon the surface of the mucous membrane, which is deprived of its epithelium. On the other hand, the exudates found in birds in diphtheroid affections caused by other microbes than Löffler's are quite different in aspect. At first sight, to the naked eye, they resemble curdled milk, are friable, opaque, and greenish-yellow in colour. Generally they have a fætid odour, and *they disintegrate in water.* They are only slightly adherent to the mucous membranes, from which they are easily detached. Sometimes these productions are hard, dry, and scaly.

Microscopically these *pseudo-false membranes*, as the author calls them, are formed by elements affected by coagulation—necrosis invaded by innumerable leucocytes. At no part do they show the staining reaction of fibrin.

The appearance of the "pseudo-false" membrane in avian diphtheria may be explained, not by a precipitation of fibrin, but by an elevation of the epithelium, which is lifted and dislodged by a veritable inundation of leucocytes, and at the same time becomes imbibed and swollen.

It results from these observations that, in avian diphtheria, the presence or absence of the fibrinous substratum in the false membrane should enable a decision to be made as to whether the disease is due to Löffler's bacillus or to other microbes.

In the latter part of his communication, the author produces many clinical facts which demonstrate the transmission of avian diphtheria to man, and, reciprocally, the transmission of human diphtheria to certain animal species.

The principal conclusions resulting from this work may be tabulated as follows ;—

1. It must be admitted that avian diphtheria is polymicrobial in nature.
2. Pathological anatomy enables the true diphtheria, due to Löffler's bacillus, to be differentiated from diphtheroid affections due to other germs.
3. Reciprocal contagion between animals and man is possible, whatever the microbe causing the disease may be.—(*Annales de Méd. Vét.*)

THE OCCURRENCE OF AVIAN TUBERCULOSIS IN MAN.

E. Löwenstein says (*Wiener Klinische Woch.*) that the eggs of tuberculous fowls contain numerous tubercle bacilli; and that when the egg is cooked, as is usual, to the consistency of a plum, these bacilli are not killed, and may provide a source of infection for mankind. He has repeatedly seen cases of avian tuberculosis in human beings, in which he bacteriologically identified the avian tubercle bacillus both by cultural experiments and animal inoculation. When acid-fast bacilli are found, not only should guinea-pigs be experimentally inoculated, but also rabbits and fowls.—(*Berl. Tier. Woch.*)

SUBCUTANEOUS TUBERCULOSIS IN A COW.

Ch. Pérard, a sanitary veterinary surgeon of the Seine, reports the following peculiar lesions which he observed in the abattoir. The subject was a cow of Normandy breed, about ten years old. She had come from a dairyman's establishment, and was affected with pulmonary tuberculosis. The lesions in question were found in the middle part of the left side of the neck.

These lesions consisted of small irregularly bunched tumours, ranging from the size of a millet seed to that of a lentil, and either united in little clusters or not united. They were situated in the subcutaneous connective tissue, in the thickness of which they formed a plastron about six inches in diameter and from 1-5th inch to 2-5th inch thick.

Some of the tumours were adherent to the internal face of the derma, and others to the external face of the superficial muscles. A large number of them had therefore been divided by the butcher's knife. Upon section, they appeared clear yellow in colour and fibrous in consistence. A certain number showed the commencement of calcification. The neighbouring lymphatic glands showed no signs of tuberculosis.

The author, in conjunction with Ramon, has already studied and described (*Bull. Soc. Centrale de Méd. Vét.*) subcutaneous tuberculous lesions of cattle, some of which resembled the "tuberculides" of Darier and Rousy. The lesions under notice were absolutely different to the previously described ones. Those first described by the author and Ramon consisted of round or oval nodules, surrounded by a fibrous envelope, of the average size of a nut, of elastic consistence, and composed of a homogeneous substance of greyish colour. The lesions under notice, on the other hand, were small hard bunched tumours, fibrous or partially calcified, and of a beautiful yellow colour.

The fact that she showed unequivocal signs of tuberculosis elsewhere rendered these cutaneous lesions especially suspicious.

Direct microscopical examination of scrapings from these lesions, stained by Ziehl's method, yielded no positive result. Animal inoculation, on the other hand, did give positive results. Two guinea-pigs were inoculated hypodermically with substance obtained by crushing these lesions, and both died—in fifty-three and fifty-eight days respectively. The post-mortem examination showed that they had succumbed to a tuberculous infection.

Finally, the author mentions that, according to the information given by the cow's owner, she had some months previously received a hypodermic injection of tuberculin on the left side of the neck. The author suggests that this may possibly have been concerned in the production of the post-mortem lesions found in the same region.—*L'Hygiène de la Viande et du Lait*.

(English tuberculins are all at least supposed to be sterile—are all French ones? The final paragraph suggests a doubt.—*Transl.*)

THE ACTION OF COD LIVER OIL AGAINST FLIES AND MOSQUITOES.

Lang, a Government veterinary surgeon of Noumea, has been studying the action of cod liver oil upon the "flat-flies" (*Hippoboscidae*) which assail animals. He finds that this oil possesses a specific toxic action upon all flies, and upon mosquitoes and ticks.

By covering those parts of the horse's body which the "flat-flies" most affect with cod liver oil, it is possible to instantly destroy all the flies which the oil even slightly touches. It is also possible, with the oiled hand, to free the horse within a few minutes of all the flies of which he is the host, without fear of a subsequent caustic action upon the skin.

The same action is manifested against flies, mosquitoes, and even against ticks, which are so difficult to extract from the skin of the dog.

Moreover, cod liver oil has a prophylactic effect. When placed upon wounds it obstructs the action of flies, and thus favours cicatrization.

Its greatest drawback is its strong smell.

Finally, if sprinkled upon the surface of water it destroys larvæ more effectively than petrol, and the author advises its use in preference to the latter agent as a prophylactic against mosquitoes.—*La Semaine Vét.*

A COMBINATION OF NARCOTIC AND ANÆSTHETISING AGENTS IN VETERINARY SURGERY.

Roger describes (*Revue de Méd. Vét. Militaire*) the following method, which he uses for surgical operations upon the horse, and which combines the action of two narcotics, sulphonal and chloral hydrate, with that of opium, a narcotic and anæsthetic. His procedure is as follows:—

1. From the evening before the operation onwards, the horse receives nothing more to eat.

2. Two hours before the operation, he is given 500 grammes (about 7/8 pint) of water, in which 20 grammes (about 3v.) of sulphonal is dissolved.

3. Half-an-hour after taking the sulphonal, he receives a clyster of chloral hydrate (the amount of this is not stated.—*Transl.*)

4. A quarter of an hour before being thrown for operation, he receives a hypodermic injection of half a gramme (nearly 7½ grains) of morphia.

This method has given the author excellent results, and has enabled him to operate just as conveniently as with the aid of general narcosis.—(*Berliner Tier. Woch.*)

[When a clyster of chloral hydrate *alone* is used for this purpose, as it often is upon the Continent, about 80 grammes is the common dose.

In the method described above, no doubt a much smaller dose is used. The most remarkable feature in Roger's procedure is the employment of sulphonal, which hitherto seems to have been very little used in equine practice.—*Trans.*]

THERAPEUTICS OF PARENCHYMATOUS MASTITIS.*

By LOUIS A. KLEIN, University of Pennsylvania.

The pathological alterations of parenchymatous mastitis show a striking similarity to those of pneumonia. There is an exudation of blood serum and an immigration of leucocytes and wandering connective tissue cells into the acini and ducts of the gland, which is accompanied by an exfoliation of the epithelial cells lining the acini and ducts. There is also an inflammatory exudate into the interstitial and subcutaneous connective tissue, which is sometimes very pronounced. If these exudates can be removed and the epithelium is capable of regeneration, resolution occurs. If the exudates are not removed and the circulation is not restored to normal within a certain period, the inflammatory process in the interstitial tissue assumes a productive character. An increase of the interstitial connective tissue occurs and the udder becomes indurated. Subsequently, the newly-formed connective tissue contracts and produces atrophy. The epithelial cells disappear in such cases, either as a result of the pressure from the contracting connective tissue or because of extensive destruction at the beginning of the disease. If the milk ducts or canals are obstructed by clumps of casein or fibrin, the pathological secretion will be dammed up and abscesses will form. If the circulation is cut off from a section of the inflamed area by thrombosis or by pressure from the inflammatory exudate or collections of pus, necrosis or gangrene will occur. The necrosed area is subsequently separated from the healthy tissue by suppuration and may then become encapsulated, or, as occurs more frequently, the line of demarcation may extend to the surface, when the sequestrum may be eliminated spontaneously or removed by operation.

Resolution and the avoidance of complications, it will be seen, depend upon the prompt removal of the exudates. The exudate in the acini, ducts and cistern can be drawn off by milking, but that in the interstitial tissues must be resorbed.

Resorption is a complex physiological process which cannot be generated by artificial means, but the natural

* Presented at the fiftieth anniversary meeting of the American Veterinary Medical Association, at New York.

processes concerned can be stimulated or increased in capacity by certain therapeutic methods. The principal factors concerned in resorption are the interchange of fluids between the blood and tissues, the leucocytes, and the quantity of blood flowing through the part. By utilising these natural forces resorption can be promoted.

Purgatives and diuretics increase the interchange of fluids between the blood and tissues. By causing a reduction in the fluid of the blood they cause fluid to be absorbed from the tissues. This is known as the derivative or revulsive method. Sialagogues and diaphoretics also produce a derivative effect. The most striking illustration of the effectiveness of this method is the result obtained from the use subcutaneously of arecoline, a purgative and sialagogue, in the treatment of laminitis in horses. In parenchymatous mastitis, it is customary to use magnesium sulphate as a purgative, but eserine and pilocarpine combined act more promptly and perhaps more thoroughly and effectively, since they are sialagogues as well as purgatives, although their cost may prohibit their use in some cases. Arecoline is not recommended for cattle. On account of their weakening effects, purgatives cannot be repeated, but the derivative action can be continued by the use of diuretics. Potassium nitrate is a very popular diuretic in the treatment of parenchymatous mastitis, but one of the less irritant saline diuretics would be more desirable. Phytolacca, which has been used empirically in the treatment of mastitis for a long time, has a diuretic action and no doubt exerts its effects in this way. Diaphoretics are of no practical value as derivatives in cattle practice.

Leucocytes assist in resorption by phagocytosis and causing the disintegration and solution of solid exudates by means of a ferment. Leucocytosis may be increased by the local application of stimulants, such as tincture of iodine, spirits of camphor, oil of turpentine, etc., and by other measures which increase the flow of blood to the part, as hot water bathing, vapour baths, Priessnitz dressing, poultices, plasters, frequent milking and massage. According to Hess, massage should only be used after the inflammation has begun to subside and pain has disappeared. If it is applied at the height of the inflammatory process the disease will be extended to the adjoining quarter on the same side or on the opposite side, and the secondary infection is usually more severe and more difficult to heal than the original process. Massage is also contraindicated when suppuration or necrosis is present. Phagocytic function of the leucocytes can be stimulated by the injection of bacterins, but this action is a specific one, and the bacterin is only effective for the particular species of organisms used in its preparation. Since parenchymatous mastitis is a polybacterial disease the preparation or selection of a suitable bacteria for each case would involve considerable detail work. Schmidt, of Kolding, Denmark, the discoverer of the successful modern treatment of milk fever, recommends as a substitute for bacterins, the infusion into the udder of equal parts of absolute alcohol and glycerine. This mixture, he says, will kill and dissolve numbers of the bacteria concerned in the disease and when these dissolved substances are absorbed, specific opsonins will be produced which will stimulate the phagocytic action of the leucocytes against the bacteria remaining in the udder. But the mixture has a destructive action upon the epithelium of the udder and for this reason can only be used in those severe cases where the life of the animal is threatened or where there is no prospect of the return of the milk secretion. In other cases, the mixture is diluted with an equal amount of physiological salt solution. Usually about 250 c.c. is infused into the infected quarter and the quarter is not milked out for three days. The disintegrating and solvent action of the leucocytes on solid exudates cannot be directly affected by drugs, but a similar action

can be obtained with potassium iodide, which destroys pathological cells and causes them to degenerate, and by sodium chloride, sodium bicarbonate, sodium sulphate, and ammonium chloride, which dissolve and liquefy solid inflammatory products.

An increased flow of blood through the part may be brought about by heart stimulants, local stimulant applications, hot water bathing, vapour baths, Priessnitz dressing, plasters, poultices, massage, and frequent milking. Caffeine will serve the purpose of both a heart stimulant and diuretic, and may be given in the form of the alkaloid or strong coffee. Frequent milking, every one or two hours, is a very important method of treatment. The manipulation of the test dilates reflexly the blood vessels of the udder and causes a greatly increased amount of blood to flow through the udder. It also removes the exudate and prevents its decomposition and the formation of irritant bacterial products in the acini and ducts of the udder. A suspensory bandage promotes the circulation in the udder and also reduces pain by relieving tension upon the tissues.

When it was demonstrated in the last quarter of the nineteenth century that bacteria were the direct cause of mastitis, Franck advocated that the disease be treated by destroying the bacteria concerned by the injection of antiseptics into the udder. This method of treatment was adopted by many veterinarians, but the results were disappointing. It was found that the antiseptic solutions irritate the udder tissue and frequently increase the inflammation even when diluted to a point where their effectiveness seems doubtful. Subsequently it was observed that all of the beneficial effects resulting from the injection of antiseptic solutions could be obtained by frequent milking without the irritation produced by antiseptics.

Some antiseptics when administered by the mouth are eliminated through the udder. The writer administered hexamethylenamina, better known under the name of urotropin, to a cow in one to two dram doses and demonstrated formaldehyde in the milk in 24 hours. Boric acid given in two to six dram doses at the same time to the animal appeared in the milk in 12 hours. No irritant effects were produced. Iodine is eliminated in the milk when potassium iodide is given and salicylic acid is also excreted through the udder. When doses of 45 grains to 1½ drams of potassium iodide were given daily, Labourdette found that the milk contained up to 3½ grains of potassium iodide to the quart. The amount of the other substances eliminated in the milk has not been determined.

The germicidal power of milk, which is feeble under normal conditions, is increased in mastitis. Its effect on the bacteria of mastitis has not been accurately tested, but the writer has observed a few cases of streptococcal mastitis in which it appeared to have destroyed the organisms of the disease. Whatever advantage can be obtained from this property can be exerted to the fullest extent by frequent milking of the affected quarter.

While bacteria are usually the direct cause of mastitis there are certain accessory or predisposing causes which should receive consideration in treating the disease. These are damp, cold floors, sudden exposure to cold air, excessive cold, drafts, incomplete milking and stasis of milk. Deep milkers are more susceptible to the disease than others.

Usually the fever is reduced by the action of the purgative and the diuretics. Very high temperature indicates septic infection and camphor, alcohol and quinine are then indicated. Necrosis, abscess formation, indigestion, paresis of the rumen, muscular weakness, posterior paralysis and other complications are treated according to the usual methods.—*American Vet. Review.*

WESTERN COUNTIES
VETERINARY MEDICAL ASSOCIATION.
[NATIONAL V.M.A. SOUTHERN BRANCH.]

The 31st annual meeting was held at the Royal Clarence Hotel, Exeter, on Thursday, March 26th, when the President, Mr. C. E. Perry, of Bristol, occupied the chair. Others present included Capt. A. S. Head, Helston; Messrs. Wm. Ascott, Bideford; W. H. Bloye and P. G. Bond, Plymouth; A. J. Down, Sampford Peverell; J. Dunstan, Liskeard; G. H. Gibbings, Tavistock; G. Lansley, Axminster; P. Penhale, Barnstaple; R. E. L. Penhale, Torrington; Wm. Penhale, Holsworthy; Wm. Roach, Exeter; W. P. Stableforth, Colyton; E. J. Thorburn, Crewkerne; and H. E. Whitmore, Langport.

The minutes of the last meeting were read and confirmed.

Apologies regretting inability to attend were read from Prof. Hobday, Messrs. E. Dunstan, F. T. Harvey, W. L. Richardson, A. G. Saunders, and W. Wintle.

Correspondence. Mr. G. Parker Short wrote from a Nursing Home in London, thanking the members for their vote of condolence passed at the last meeting.

THE LATE MR. WM. HUNTING.

It was unanimously resolved to support the proposed petition to the Treasury, and the President was empowered to sign a copy of the same on behalf of the Association.

On the motion of Mr. R. E. L. Penhale, seconded by Mr. Wm. Penhale, it was resolved "That the sum of three guineas be subscribed to the Fund being raised in recognition of his life and work."

A letter from Mr. J. C. Coleman, of Swindon, asking to be supported in his candidature for election to the Council in May, was read.

The notice of the Congress of the Royal Sanitary Institute, to be held at Blackpool in July next, was allowed to lie on the table, the distance being considered too great to appoint delegates.

The Hon. TREASURER (Mr. P. G. Bond) presented the annual report and balance-sheet, and on the proposition of the President, seconded by Mr. Ascott, the same was approved and adopted.

ELECTION OF OFFICERS.

Mr. W. P. STABLEFORTH was unanimously elected President for the ensuing year, and Capt. Head, Messrs. C. E. Perry, Wm. Penhale, and G. Lansley, vice-presidents.

Messrs. P. G. BOND and WM. ASCOTT were re-elected Hon. Treasurer and Hon. Secretary respectively, and heartily thanked for their past services to the Association.

The arrangements for the next meeting was left in the hands of the President, Hon. Treasurer and Secretary.

EPIZOOTIC ABORTION.

By Capt. A. S. HEAD, F.R.C.V.S., Helston.

Definition. A specific, contagious, catarrhal inflammation of the pregnant womb, with an oedematous condition of the foetal membranes. The chief symptom being the expulsion of the foetus prior to the full time of gestation.

It is a disease which has, possibly, from early times down to the present time, caused as much loss financially to dairy farmers and breeders as any other disease, but owing to the fact that it does not cause loss of life to the affected animal, it has not been studied until latter years, or received the attention it deserves;

and even now we are without legislation on the subject. To many a dairy farmer it means financial ruin to have his herd infected with the disease.

The disease usually at its outset affects all, or nearly all, of his cows. His supply of milk fails through the cows slipping, and not calving at the time that he has arranged and requires their milk, so he has either to buy new cows in full milk to supply his customers, and feed the cows that have slipped, or try to breed from them again. I have known dairy farmers that have not had a live calf for a whole year. When one thinks of this one can only wonder why, in our land of so many laws, some steps have not been taken to check the ravages of the disease.

The disease is caused by Bang's bacillus, which is rather like the tubercle bacillus, but smaller. The larger bacilli have a beaded appearance when stained, with rounded ends, are non-motile, do not sporulate, and have a great tendency to clump or group together which, under the microscope, look like micrococci.

Staining Reactions. With all watery solutions, but not by Gram. The best and easiest methods are, I think, $\frac{1}{2}$ carbol-fuchsin and $\frac{1}{2}$ water, or a weak solution of methylene blue.

The bacillus is found chiefly in the exudate between the uterus and chorion. At the time of abortion a smear taken from this exudate shows large quantities of bacilli. The bacilli can also be found in the substance of the cotyledons and the foetal stomach.

Cultivation. The bacilli can be grown on gelatine, agar serum, at about body heat.

Susceptibility. Bang's bacillus has not been found in any animal but the cow, and has never been found in the bodies of the male or the virgin female, although it has been given experimentally to the mare and goat.

An attack of the disease, provided that the cow is allowed to thoroughly recover from the disease before being again served, gives a certain amount of immunity. Two attacks render a very large proportion of the herd immune; this acquired immunity lasts probably for several years, but I have known one cow to have the disease four times, and many others three times. An aborted calf that lives probably also has a lifelong immunity.

Natural Infection. I believe that I am right in stating that it is now widely believed that the most common mode of infection is through the alimentary canal. It is well known that animals can easily be infected experimentally in this way.

The next most common way will probably be found to be due to infection by biting flies. I put infection by the bull last, but as quite a possible way. In everyday life a farmer keeps a bull, and he usually puts an outbreak of abortion down to some infected cow being brought to his bull to be served. I think that this is quite possible, provided that his bull afterwards serves a clean cow of his within a few days.

I think that the most probable explanation is, putting aside the question of a dog bringing an aborted foetus on to his farm, or his neighbours having infected boots, that an infected cow comes to his farm, discharging and dropping bacilli all over his yard and bull box, the bull gets it on his feet and chest, the farmer himself and his men step in it, and then walk over the fields and into the cowsheds, and his cows pick it up from the grass or bedding, or flies alight on the discharge and carry it to other cows and infect them by biting or through sores. That, and the want of proper care in the disposal of the placenta and foetus of infected cows, are the chief causes in the spread of the disease. Another great factor in the spread of the disease I will mention later.

Diagnosis. It is not possible at present to diagnose the disease with any certainty before the principal symptom, i.e. abortion, has occurred. Experiments have been made with "Abortin," which, like tuberculin,

is said to give a temperature reaction, but even if we could diagnose it we cannot cure it, and so, with the exception of isolating all cows that react, from a practical point of view it would be useless to us.

When abortion occurs, diagnosis within 24 hours is simple. Besides the fact that the exudate contains large numbers of bacilli, the placenta itself is a great guide; it has a distinct yellow, gelatinous, watery appearance, quite unlike a normal afterbirth. In nearly all cases it is retained, and there is a very peculiar smell attached to an abortion placenta that may be best described as "musty."

Curative Treatment. The market, under various headings, is full of so-called cures for the disease, the majority having carbolic acid as their base, disguised in many ways; some give the acid in the food, others as a drench; some again vaporise the acid with a certain percentage of liquorice to disguise the smell, and others spray it into the vagina. They all claim, and I must admit with some right, to cure the disease. Their success is due to three factors:—

(1) With all preparations, either inhalations, or per os, etc., there are directions as to isolation, disinfection, and the disposal of manure, foetus, afterbirth, etc., this alone does a lot.

(2) The farmer begins to wake himself up to the nature of the disease, and takes steps to stamp it out.

(3) By the time that the farmer is awake and finds that he has abortion on the farm, half the battle is over, the herd is beginning to immunise itself.

He has probably got over the first all-round slip, and many of the cows during the second year will carry their calves full time; and those that slip will carry their calves longer than they did the previous year. At the third year his whole herd is practically immune, and he then writes a testimonial stating that: "One year after using your medicine it completely stamped out the disease on my farm": so are reputations made.

I myself know of no cure once the disease has attacked a cow, and until the act of abortion has taken place, or full-time calving has taken place. I say this as it is quite possible, and sometimes happens, that a cow has contagious abortion and yet carries the calf full time, and when she calves, bacilli can be found in her in great numbers; but I believe that one can prevent an outbreak, cut an outbreak short, and protect stock that have not already got the disease from getting it even when on a badly infected farm.

Prevention and eradication. I believe that the first necessity is a law making the disease notifiable, and preventing the exposure for sale (except for food purposes) of any cow or heifer on the farm until that farm is certified to be clean.

It is now a common practice among a certain class of farmers and dealers to put another calf on to a heifer or cow that has aborted, and as soon as they take to the new calf, send them to the market as a newly calved cow or heifer. One can imagine nothing more criminal than this; for the cow is simply dropping bacilli everywhere, and the new owner's farm is soon thoroughly contaminated. A severe penalty is required to check this practice.

The next question is the advice that we should give an owner of a contaminated farm. I think the following are the chief points:—

(1) Don't buy any fresh cows or heifers if it can be avoided, as they are certain to catch the disease, and so keep the disease running; keep and re-breed from all your cows that have aborted if possible, they are less likely to abort a second time than a new cow, and are nearly certain not to abort a third time. Naturally, one would keep all cows that do not abort, as they have a natural immunity.

(2) After calving, if the after-births don't come away naturally, have them removed—the cows clean up sooner and the time that they are spreading infection is therefore shorter.

Isolate aborted cow until clean.

(3) Keep your own bull.

(4) Watch your herd carefully, see every cow yourself, and look for signs of abortion: then isolate at once.

(5) Burn or bury the foetus and afterbirth, and mix the dung and bedding from an aborted cow with lime and use on ploughed land, or, better still, in the kitchen garden.

(6) Use a disinfectant spray, and disinfect your cows behind daily.

(7) Keep every cow that calves two months before going to the bull again. This, I believe, gives the cow time to completely recover from the disease before the uterus is again impregnated.

(8) A cow that has aborted should be kept two months after cleansing has ceased.

I believe in the importance of keeping the cows empty for some time for two reasons: (1) It gives the cows time to get over the disease; (2) After abortion you get a percentage of cows that will not hold (keep returning to the bull).

There only two ways that I have found give any satisfaction in the treatment of this trouble: (1) Keep the cow away from the bull for a lengthy period; (2) Well wash out the vagina with an antiseptic solution, and then let the bull serve and inseminate her.

Protective inoculation. We know that attacks of the disease render the animal immune, therefore by giving the animal the disease, or, in other words, injecting a proportion of the live bacilli into the subject when she is empty (at a certain length of time before being served by the bull) so that she may recover from the disease before becoming pregnant, should cause immunity. For the last three years I have, under the instructions of Sir Stewart Stockman, been experimentally inoculating cows in this way with material supplied by him.

The figures are not mine to publish, and as experiments have been and are being carried out in other parts of the country, I understand Sir Stewart Stockman naturally wishes to publish the results as a whole, and I believe that this will be done at a very early date. I do not think I am indiscreet in stating that I have inoculated nearly 1,000 cows, and for my part the experiment has proved to me that this line of treatment will be universally adopted in a very short time.

This and legislation, and a better education of the farmers on the subject will, I am certain, in a few years place contagious abortion in the same category as rabies and pleuro-pneumonia.

Vitamine.

A definite substance has at any rate been extracted from rice-polishings, yeast, bran, and milk which forms a small though apparently a very essential part of food-stuffs, inasmuch as their value as nutrients is impaired without its presence. The so-called "deficiency diseases" appear to arise from the use of foods from which vitamine has been removed. The substance appears to be a pyrimidine base analogous to uracil and thiamine and is probably a constituent of nucleic acid. It is definite enough to be crystallisable, the crystals giving a constant melting point. It is to be hoped that this substance will be the subject of further active researches, for the importance attached to the chemistry of foods seems to diminish in contrast with the vital influence of this remarkable base in dietetics.—*The Lancet*.

Department of Agriculture, Union of South Africa.

VETERINARY DIVISION—DISTRIBUTION OF OFFICERS.

Principal Veterinary Surgeon: C. E. Gray. Assistant Principal Veterinary Surgeon: J. D. Borthwick.

Cape Province.—Senior Veterinary Surgeon: R. W. Dixon, Capetown. G.V.S.: A. Goodall, W. Jowett, and E. Fern, Capetown; R. P. Jones, East London; J. H. L. Lyons, Graaff-Reinet; W. P. Hamlyn, Komgha; A. Matthew, Elliot; W. A. Simson, Cradock; W. Jones, Uitenhage; J. Nichol, Kingwilliamstown; W. G. Pakeman, Queenstown; J. P. L. Goemans, Vryburg.

Transvaal.—Senior Veterinary Surgeon: J. M. Christy, Pretoria. G.V.S.: R. S. Garraway, Pretoria; W. G. Evans, Volksrust; P. Conacher, Johannesburg; J. I. Edgar, Pietersburg; G. May, Rustenburg; H. M. Webb, Carolina; G. C. Webster, Barberton; J. Chalmers, Ermelo; J. M. Tate, T. H. Dale, Potchefstroom; J. G. Bush, Krugersdorp; G. Lee, Middelburg; F. Dunning, Lydenburg; G. McCall, Nylstroom.

Natal.—Senior Veterinary Surgeon: W. M. Power, Pietermaritzburg. G.V.S.: S. H. Ewing, Eshowe; A. F. Harber, Durban; S. I. Johnston, Mooi River; F. J. Hill, Ladysmith; A. Goulé, Maritzburg; J. L. Webb, Bulwer; C. Tyler, Port Shepstone; and F. Hutchinson, Dundee.

Orange Free State.—Acting Senior Veterinary Surgeon: G. W. Freer, Bloemfontein. G.V.S.: J. F. Joyce, Ficksburg; J. R. R. Hamilton, Bloemfontein; F. M. Skues, Bethlehem; C. H. Wadlow, Smithfield; and E. T. Clemow, Frankfort.

Transkeian Territories.—Senior Veterinary Surgeon: J. Spreull, Umtata. G.V.S.: A. M. Howie, A. C. Kirkpatrick, R. Paine, W. A. Dykins, J. J. G. Keppel, and J. A. Worsley, Umtata.

DIVISION OF VETERINARY RESEARCH.

The Division is in close touch with, and is complementary to, the Veterinary Division. Director of Veterinary Research: Sir Arnold Theiler, K.C.M.G. Assistant Director of Veterinary Research: W. Robertson, Grahamstown. Superintendent: E. P. H. Parkes. Professional Assistants: D. T. Mitchell, W. H. Andrews, D. Kehoe, F. Veglia, G. A. H. Bedford, J. Walker, E. M. Robinson, H. H. Green, and P. R. Viljoen, Allerton.

Lamziekte Research Stations: Christiana (Officer in charge: W. H. Andrews), and Armoed's Vlakte (Officer in charge: R. R. Sharpe).

A Dangerous Dog.

A person is entitled to keep a dangerous animal upon his premises, but if he does so he is under the absolute duty of seeing that such animal does not escape. If it does escape, he is liable for any damage caused by it. In a recent case that rule has received some modification. A dog, the property of the defendant's daughter, had previously bitten another dog, and both the defendant and his daughter knew this. The dog was in fact the property of the girl herself, who was seventeen years of age; she had paid for the licence, which was in her name. She lived with her father, and the dog was also in that house. It happened that the dog worried and killed a Pomeranian dog, and its owner sued for damages, directing the action not against the girl but against her father. In the circumstances, and taking into consideration the age of defendant's daughter, the Court held that she had the custody and control of the dog, and that her father, who was not the owner of the dog, owed no duty to the community in respect of it.

In a case lately heard in the Falkirk Sheriff Court, the evidence clearly showed that the pursuer had been bitten by defender's dog, and that the defender knew that the dog was of a biting disposition; but the further question emerged whether, in the circumstances, the defender was liable, for the injury had been received by the pursuer when he was walking along a road through defender's farm steading, where there was a custom of passage not amounting to a right-of-way, but tolerated by the defender and his predecessors in the farm for many years. The argument for the defending farmer was that pursuer was a trespasser, and was at the steading on his own risk; but the Judge thought that as defender had acquiesced in persons using the road, there was laid on him the duty of controlling vicious animals so as to prevent them injuring passers-by, and accordingly he found the defender liable in damages.—*The Scotsman.*

Mange Prosecution at Hartlepool—Dismissed.

At the West Hartlepool Police Court on Wednesday, 25th ult., before Dr. Davis (in the chair) and Colonel Lauder, Joseph Thomason was charged with an offence under the Diseases of Animals Act.

Mr. Higson Simpson (the Town Clerk) prosecuted. He said the Order known as the Parasitic Mange Order of 1911 provided that a person having in his possession any animal suspected of parasitic mange should keep the animal separate and comply with certain other conditions.

Inspector Kevan said that on Saturday the 31st January his attention was called to a horse belonging to Mr. Pattison and which he found to be suffering from parasitic mange. He stopped the horse from being used. Accompanied by the Corporation veterinary inspector he went to the premises of the defendant and there found a mare suffering from parasitic mange.

Benjamin Hoadley, M.E.C.V.S., veterinary inspector employed by the Corporation, said that on the 1st Feb. he received notice of the defendant, went to the premises and there saw a bay mare. In his opinion it was a very bad case of parasitic mange. From the condition of the animal the disease had been in existence for at least three months. Mr. Emmerson Thomason said they had been treating it with paraffin oil and trying to cure it. Paraffin oil was not a proper remedy. He put some hair from the animal under a microscope, and found this particular parasite.

Cross-examined, the witness said there were lots of skin diseases and three specific forms of mange. A mere novice would be able to detect the presence of the disease once he had seen it.

James G. Dean, M.E.C.V.S., of Bishop Auckland, spoke to visiting the premises on the 4th Feb. He found a bay mare suffering from parasitic mange. It was general all over the body. It was a very bad case, so bad that any person who had seen a case of parasitic mange before could not mistake it.

Mr. Berry, for the defence, said that his client had had a vast experience of horses. They were asked to believe by the prosecution that he had allowed a mare suffering from this contagious disease to be amongst other horses. That was an unreasonable proposition. They had no proof that there was a reasonable suspicion of the mare suffering from mange. His client believed that the mare was suffering from an ordinary skin disease due to overfeeding, and he allowed his man to take the usual precautions. When his client thought there was a suspicion of the mare suffering from mange he immediately gave notice.

Joseph Thomason, manager for Messrs. J. J. Thomason and Co., hay and corn merchants, said on Dec. 12th he purchased a horse from a Mr. Beach, and on Dec.

19th he exchanged it for another one with Mr. Pattison. The horse he got from Pattison was a grey gelding, and there was not anything wrong with either horse. At that time he had a bay mare in his possession, and that animal was the object of the charge. That animal he had owned for three years, and in December last he noticed that there was a little rash or eczema—common among horses—upon it. This, he thought, was due to heat in the blood, for in the back end or spring of every year since he had the animal it had been similarly afflicted. There were six other horses in the stable along with that horse, and he most certainly would not have allowed the mare to be among the other horses had he suspected parasitic mange. On Jan. 31st witness heard that Mr. Pattison's horse had been stopped, and in consequence of that he saw Mr. Walker, the veterinary surgeon, and asked him to look at his mare. Mr. Walker could not find anything relating to parasitic mange.

Emmerson Thomason said he did not think the horse in question had suffered from parasitic mange. The harness used by this horse had also been placed upon other animals, and those horses had not shown the least symptoms of the mange. The horse had suffered from a slight scurf, which had been treated with paraffin.

John M. Walker, F.R.C.V.S., veterinary inspector for the Petty Sessional Division of West Hartlepool, and for Hartlepool, stated that on January 31st defendant told him that Pattison's horse (which had come from his stable six weeks before) had been stopped on account of parasitic mange, and he asked witness to examine the mare concerned in this case. He did so the following morning, and found new hair growing along the back and flanks. He considered that the condition of the horse's skin was then due to the paraffin. Witness advised Mr. Thomason to get a second opinion, and reported the case as a suspected one, as a precautionary measure. He, however, was of the opinion that the horse had not had parasitic mange.

The Chairman: In your opinion, under the conditions, would it be very difficult for a layman to detect whether it was a case of parasitic mange?

Witness: Most certainly.

The Bench found that defendant had not had reasonable suspicion that the animal was suffering from parasitic mange between January 1st and 13th, and they therefore dismissed the case.—*Northern Daily Mail*.

Dispute about a Gelding.

At Castlereagh Quarter Sessions, on Tuesday, 24th ult., James Lenaghan, Tournagee, sued Martin Murray, Ballyglass, for damages for breach of warranty of a horse.

Mr. P. C. P. MacDermot was for the plaintiff, and Mr. Staunton defended.

Lanaghan, in reply to Mr. P. C. P. MacDermot, deposed that the animal was not a gelding as he was engaged to be. The animal was bought at £15 15s., and he could not do farm work now with the animal.

Mr. James Watson, v.s., jun., deposed that Lenaghan brought the horse to him in Boyle. The animal was not a gelding.

To Mr. Staunton; I examined the horse carefully. To the best of my knowledge the animal is not a gelding.

Andrew Lenaghan deposed in reply to Mr. P. C. P. MacDermot that the animal was bought at the fair of Ballinagare on Jan. 6th. He said the colt seemed to behave rather unusually.

Mr. Robert Hans deposed he had got a certificate in Science from the Royal Veterinary College. He was now in his final year, and had carried out about fifty such operations each year which were invariably suc-

cessful. He carried out the operation on the animal last April. He swore positively this horse was a gelding.

Mr. P. C. P. MacDermot: When you went to Lenaghan's house why did you not tell him your name?—I did not think it was necessary.

You are a handy man? You are not a vet?—I will be one soon.

It would be a serious thing for you if it went through the country that you did not successfully carry on the operation?—Owners of animals for whom I have carried out such work would not have any other.

Mr. E. Mulligan, v.s., Roscommon, deposed he examined the horse, and in his opinion it was a gelding.

To Mr. P. C. P. MacDermot: I disagree with Mr. Watson when he says the operation was not successfully performed.

How do you account for the horse's actions?—He is a spirited horse.

Martin Murray deposed he sold the gelding to Lenaghan at Ballinagare fair. The colt was the finest one ever he had. The operation was successfully performed.

Mr. P. C. P. MacDermot:—Was it not rather unusual to see a colt of his age?—No.

You engaged the animal to be all right?—Yes.

There is a difference between the "vets." and would you agree to pay the fees of Mr. Vahey, v.s., Sligo, if you are wrong in this?—That depends (laughter).

Thomas Morahan corroborated.

His Honour said he held the colt was a gelding, and he dismissed the action.—*Roscommon Herald*.

Swine Fever.

At a meeting of the Council of the Central and Associated Chambers of Agriculture held on March 31st at the Surveyor's Institute, Mr. C. Bathurst, M.P., was in the chair.

The report of the Cattle Diseases Committee stated that the deputation which waited upon the President of the Board of Agriculture on the subject of the Tuberculosis Order received a most sympathetic hearing. They regretted that the Departmental Committee on Swine Fever (the conclusions of which appeared in *The Times* of February 12) had not been able as yet to come to more definite conclusions on this very difficult question, and were of opinion that it would be more satisfactory to agriculturists if the Departmental Committee were to publish further particulars as to details of the experiments carried out by them.

Professor Penberthy, in moving the adoption of the report, said the deputation to Mr. Runciman took the form of a private conversation. Mr. Runciman was very sympathetic in respect to dual valuation, increased compensation, and the cost of administration, and no doubt this would be evidenced in any new Order issued.

Colonel Lewis said they had been for a good many years trying to stamp out swine fever, but they could not say that all the efforts of the Department of Agriculture had met with even modified success. In the last five or six years nearly half a million had been spent, and the net result was that swine fever had increased enormously. The administrative action taken to stamp out swine fever had been a complete and absolute failure. There seemed, therefore, to be no particular reason why these vexatious restrictions should still be imposed on the agricultural community.

In the course of discussion, the view was expressed that, if pigs were slaughtered at the market and only removed under licence, swine fever would be reduced enormously.

Mr. Wood Homer dissented from the idea that restrictions on swine fever should be abolished.

Mr. Courthope, M.P., Chairman of the Departmental Committee on Swine Fever, said no doubt a carefully thought out adaptation of inoculation treatment in this country might save the Government, and probably County Councils, a good deal of expenditure. It would not, as far as he could see, save the farmers anything. That the Departmental Committee had not been able to come to more definite conclusions was due to the fact that so little was known of the disease. The present orders and administration of swine fever had completely broken down. But if they were to recommend the Board of Agriculture to "scrap" their present system of control the Departmental Committee must do one of two things. They must be prepared to justify the removal of all restrictions and allow swine fever to "rip," or suggest some reasonable proposals for dealing effectively with it in place of the policy of control. He thought the Chamber would be very rash to propose the removal of all restrictions, and it was with a view to finding some means of dealing effectively with the disease that experiments were being carried out, and further experiments were still necessary.

The Chairman said the Board of Agriculture could not stamp out this disease, because a large number of animals affected showed no discoverable symptoms of it, yet they communicated it to the pigs. Therefore, it was impossible to defend the existing harassing restrictions. Other countries were recognising the futility of restriction, and abandoning them in the interests of the pig trade.—The report was adopted.

Mr. R. C. Gray moved "That, owing to the enormous increase of mechanical traction, the whole cost of the maintenance of such roads as are in general use for the purpose of through traffic should be borne by the Imperial Exchequer." He said the roads which formerly cost £15 to £18 per mile to keep up now costs hundreds of pounds per mile. (Carried.)

OBITUARY

THOMAS AUBREY, F.R.C.V.S., Clifton, Bristol.
Graduated, Lond: May, 1854. F. Jan., 1893.

By the death of Mr. Thos. Aubrey, F.R.C.V.S., of Clifton, Bristol, the profession loses one of its oldest practitioners. Passing away on Saturday last quite suddenly from arterio-sclerosis, he was in his 82nd year, and had been in active practice almost half a century. His funeral took place on Tuesday at Bitton, Gloucestershire, and was attended by a representative gathering, including many veterinary surgeons, for he was widely known and very much respected.

He was born in 1833 at Salisbury, and was for 38 years in practice there, until 1892, when he took over the practice at Bath of the late Mr. T. D. Broad, F.R.C.V.S. On retiring in 1904, he was succeeded by Mr. Eve; the business is now in the hands of Mr. J. J. Aveston.

For many years Mr. Aubrey was veterinary surgeon to the Bath and West of England Show, and to the Shire and Hackney Shows in London, as well as others in different parts of England. An excellent judge of shoeing, his services as an adjudicator in this branch were in much demand. In 1876 he married Kate, daughter of T. D. Broad, who survives him, with four sons and four daughters. The former are Dr. Aubrey, of Bitton, and Messrs. Fred, Harold, and Leonard Aubrey, all dental surgeons.

CHARLES RUGG, M.R.C.V.S., late of Marden, Kent.
Lond: April, 1870.

Mr. Rugg's death occurred on 28th March, at a nursing home in Kensington, at the age of 64. He was brother of Mr. George Rugg, M.R.C.V.S. Chiswick, London,

GEORGE CRAIK, M.R.C.V.S., Alnwick.

New, Edin: May, 1888

Mr. Deputy Coroner H. J. Percy held an inquest at the Court House, Alnwick, on Monday, 30th ult., touching the death of Mr. George Craik, M.R.C.V.S., of Nether House, Alnwick, who died from injuries received through the hunter which he rode bolting with him.

George Cockburn Robertson, brother-in-law, gave evidence of identification.

Thomas Davison Hall, steam-roller driver, West Allerdean, who was in charge of a road roller, stated that he was working on the road between the railway station and the Royal Oak. When about 50 yards off Mr. Craik shouted to him to shift his engine to the other side of the road. The engine was then standing. He started the engine, and got across to the other side of the road. Looking back, he saw Mr. Craik lying in the middle of the road, the horse standing about a yard away from him.

Robert Clark, yard foreman at the White Swan posting establishment, said about half-past two o'clock on Friday afternoon, he was driving a pair of horses attached to a carriage along the South Road. Mr. Craik was going along in front of him, and his (Mr. Craik's) horse started to plunge, and jumped on to the cement footpath at the side of the road, where it slipped and fell almost on its hindquarters, but did not go down. Mr. Craik kept his seat. Regaining its feet, Mr. Craik's horse made a jump to come on to the road, but its legs went out from below it and it fell into the road, Mr. Craik being underneath, but he fell on his face.

Dr. Scott Purves stated that he was called to the Infirmary about 2.25 p.m. on Friday, where he saw the deceased, who was not unconscious. There was a bruise on the back of his head caused by coming into contact with the road. By 4 o'clock Mr. Craik had recovered himself, and he (Dr. Purves) got his car and took him from the infirmary to his home. Mr. Craik was able to walk upstairs to his bedroom, where he put him to bed. It subsequently proved that hæmorrhage had been going on, and at 10 o'clock at night, when Dr. Robson was present, Mr. Craik had become unconscious, and was showing signs of concussion of the brain. He and Dr. Robson considered it would be advisable to send for a specialist, and Dr. Richardson arrived about 1.30 a.m., by which time Mr. Craik appeared to be better than earlier in the night, and it was considered that an operation was not necessary.

The Deputy Coroner, after remarking upon the evidence, said the jury, as well as himself, would wish to convey to the widow of their esteemed townsman their deepest sympathy in her sad bereavement.

The jury found that deceased died from cerebral compression, the result of being accidentally thrown from his horse.

The remains of the late Mr. George Craik were laid to rest in the cemetery at Alnwick on Monday afternoon. The procession which followed was a very long one, the late Mr. Craik having been most popular amongst all classes. The cortege was preceded by upwards of seventy of the Masonic brotherhood, of which the late Mr. Craik had been a member. The principal mourners were Mr. Adam Robertson and Mr. G. C. Robertson, Mr. D. Craig, Messrs. D., G., and W. Craik, Mr. Reive, Misses G. and A. Reive, Mr. P. Marshall, Mr. Marshall, jun., Mr. D. Robinson, Mr. Ralph Nesbitt, Mr. James Lillico, Mr. R. F. Robertson, Mr. Adam T. Robertson, and Mr. T. Reavell; Sir Francis E. Walker, representing the Duke of Northumberland and Earl Percy; and Mr. L. R. Pym.

Representing the Percy and neighbouring hunts were Captain R. Milvain, M.F.H., Mr. R. Basil Hoare, M.F.H., Shawdon; Mr. T. Arthur, Bell's Hill; Mr. Rupert S. Wright, Belvedere; Mr. F. O. Chrisp, Prend-

wick; Dr. Fenwick, Longframlington; Captain M. Burrell, Broompark; Captain C. E. Browne, Brunton; Captain M. Browne, Tuggal; Mr. Alex Browne, Callaly Castle; Mr. F. P. Barnett, Whalton; Mr. G. Bolam, Newham Hall; Mr. Wm. Bell, Ratcheugh; Colonel Kenyon-Slaney, Broompark; Mr. M. Whiteford, Warkworth; Mr. John Sordy, Greensfield; Mr. G. Green, Birling; Mr. R. L. Allgood, Titlington; Mr. Beckett Clayhills, Dancing Hall; Mr. J. J. Pawson, Newton Link House; Mr. C. R. Pawson, Callaly; Mr. W. J. Glahome, Littlehoughton; Mr. W. Glahome, Alnwick.

Dr. Clement Stephenson, Mr. G. Elphick, Mr. Davison, Newcastle; Mr. W. Taylor, Morpeth; Mr. Cameron, Berwick; Mr. Lawson, Rothbury; Mr. Lyon, Wooller; represented the veterinary profession.

The committee of the Alnwick Infirmary were represented by Dr. Scott Purves and eleven other members.

The Alnwick Swimming Club, of which Mrs. Craik had been president of the ladies' section, was represented by Messrs. J. Wrightman Douglas, W. A. Hudson, and J. Frater.—*Newcastle Daily Journal*.

JAMES HALL BROWN, M.R.C.V.S., Westcliffe-on-Sea.

London: May, 1861.

Death took place on March 25th from senile decay: cardiac failure. Aged 77 years.

PARLIAMENTARY.

In the House of Commons, on Thursday, March 26th

Mr. HERBERT SAMUEL, in answer to Mr. Astor, said that investigations made on behalf of the Local Government Board indicated that tuberculosis in children was often clearly connected with the consumption of tuberculous milk. He was now engaged in the preparation of legislation to deal with this and other sources of infection and with the adulteration of milk, and hoped to be able to make a statement with regard to it at an early date.

The Tuberculosis Order in Perthshire.

At a meeting of the Perthshire Local Authority, Mr. Wm. Henderson, Lawton, presiding, Mr. Marshall, jun., reported that the Executive Committee appointed by the representatives of Scottish Local Authorities in connection with the proposed amendment of the Tuberculosis Order agreed to ask all Local Authorities for suggestions, and thereafter to have another meeting. There seemed to be a consensus of opinion that the scope of the Order should be extended to cover all cases of animals which, although apparently healthy, were spreading disease germs. The opinion was also strongly expressed that the whole cost of compensation should be borne by the Exchequer.

The meeting then proceeded to consider *seriatim* the proposals sent out by the Executive. The first was that the veterinary inspector be empowered to employ the tuberculin test without the consent of the owner. After consideration, the suggestion was approved.

The second suggestion was that Article B (1) be deleted, or (2) amended to meet the difficulties which have arisen in practice. The Chairman said that this referred to the removal of suspected cases in markets and sale yards for examination. Certain Local Authorities had been involved in serious questions. The Executive's proposal was agreed to.

The third proposal was that the scope of the Order be widened to include all bovine animals actively disseminating the germs of tuberculosis. Mr. Ferguson said that what they had to fight against was the man who tied up a pinner in the stalls on a Friday and was followed by a man who tied up a clean beast on Monday. It was

agreed to approve of the extension of the Order as suggested.

The fourth suggestion, which was also approved of, was that a request be made that the whole cost of administration, including compensation paid, be borne out of imperial funds, or, alternatively, that a request be made that in addition to part of the compensation being paid out of imperial funds, the cost of administration be borne out of this source.

Mr. Marshall reported that the number of tuberculosis cases notified to date was 53. Of these, 9 were not confirmed, 1 not examined, and 1 was still under consideration. As the result of post-mortem examination, only 1 out of the 42 was not confirmed. Of the cases, 6 were not advanced and 35 advanced. The compensation paid or payable was £120, salvage received, £25 14s. 9d., and administration expenses ran to £2 10s. per case.—*Scottish Farmer*.

Foot-and-Mouth Disease.

An outbreak of foot-and-mouth disease has occurred at Ticknock, Co. Dublin, and movements of animals in the district, including the City of Dublin, have been prohibited.

Animal Diseases in Edinburgh.

A report by Professor Dewar, the veterinary inspector on the work in connection with the Diseases of Animals Acts in Edinburgh for the year 1913, was submitted at a meeting of Edinburgh magistrates held recently. It stated that there had been but one outbreak of swine fever reported as having occurred within the city during the year, though a serious outbreak occurred in the Corstorphine district in the early summer, which entailed a good deal of extra work in connection with the markets. Not for over two years had a case of anthrax come under Prof. Dewar's notice as having occurred within the boundary, but quite a number of suspected cases had been reported. There was only one case of glanders; and although a large number of sheep passed through their markets during the year, there were no cases of sheep scab. Referring to foot-and-mouth disease, he said that notwithstanding the fact that numerous complaints had been made that the twelve hours which the Board of Agriculture claimed was necessary for inspection was a hindrance to trade, it had been continued to the end of the year. Only six outbreaks of parasitic mange were reported, and four of these were confined to single animals. Four tuberculous cows in dairy byres were destroyed. The authority's experience of the Tuberculosis Order of 1913 helped to give them more confidence, as they found the compensation to be made comparatively small.—*N.B.A.*

Mr. Rockefeller and Animal Diseases.

Mr. John D. Rockefeller, according to an announcement made recently, has given £200,000 to the Rockefeller Institute for Medical Research, to be used to organise and conduct a department for the study of animal diseases.

Hitherto the Rockefeller Institute has confined its investigations to studies of the fundamental problems of biological science, and to the field of human diseases. From the economic standpoint Mr. Rockefeller's gift will go far, it is believed, to minimise the great annual loss to the country entailed by animal disease. Such losses discourage enterprise in animal husbandry, and consequently increase the cost of living. Last year, it is estimated, an epidemic of hog cholera killed £12,000,000 worth of swine in the North-West alone.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.		Out-breaks	Slaugh-tered.*
	(a)		(a)		(b)		(b)			(a)	
GR. BRITAIN.											
Week ended March 28	15	18				2	42	74	4	94	1129
Corresponding week in											
1913 ...	16	16			10	25	74	144	5	59	1057
1912 ...	22	23			4	10	62	123	4	66	958
1911 ...	17	20			4	5			5	51	518
Total for 13 weeks, 1914 ...	243	261	11	74	25	69	957	1799	134	781	7278
Corresponding period in											
1913 ...	174	191			46	136	1016	2148	105	467	5819
1912 ...	326	357			46	103	1526	3561	144	790	9808
1911 ...	261	301	1	18	52	184			280	513	5731

(a) Confirmed. (b) Reported by Local Authorities.

Board of Agriculture and Fisheries, March 31, 1914

† Counties affected, animals attacked: Lanark 2.

MERCK'S ANNUAL REPORT OF RECENT ADVANCES IN PHARMACEUTICAL CHEMISTRY AND THERAPEUTICS. 1912. Vol. XXVI (E. Merck, Chemical Works, Darmstadt, 1913. London office, 16 Jewry Street, E.C.)

Merck's Annual Report is always welcomed by pharmacists and physicians alike, as an invaluable summary of the recent progress of their closely allied sciences. The work is so well-known that all we need do is to indicate two special features in the present volume, and to add that it more than maintains the standard set by its twenty-five predecessors. The special features are a long commencing article (physiological, chemical, and therapeutical) upon lecithin, and a shorter one as an appendix (by Prof. R. Heinz) on the assay and standardisation of digitalis preparations. The bulk of the volume is made up as usual—by a series of articles upon all drugs known to the editor which have been the subject of advances since the publication of the last volume. These include many little-known agents, and many others—such as eucalyptus oil, salicylic acid, and sodium bicarbonate and thiosulphate, which are used by almost every practitioner. The whole is as interesting and suggestive as we have been accustomed to find Merck's Report in previous years; and as veterinary medicine, if not very prominent in its pages, is by no means neglected, it should find many readers in our profession.

W. R. C.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, March 27.

SPECIAL RESERVE OF OFFICERS.

Supplementary to Regular Regiments or Corps

ARMY VETERINARY CORPS.

J. J. Mills, late Cadet-Serg. Royal Vety. Coll. of Ireland O.T.C., to be Lieut. (on probation). Dated March 28.

Prohibition of Export of Russian Horses.

The Bill prohibiting the export of Russian horses abroad came into force last week. The main object of the measure is to lower the cost of cavalry remounts for the Russian Army. During the last few years the Germans have bought 100,000 horses in Russia annually, with the result that prices in this country have risen inordinately.—*Reuter*.

Personal.

Mr. WILLIAM MARSHALL, M.R.C.V.S., Aberdeen, has been recommended to the Council for appointment as veterinary surgeon for the city by a joint meeting of members of the Bills and Law, Public Health, and Cleansing Committees of the Aberdeen Town Council

Mr. ANDREW MACGREGOR, M.R.C.V.S., of Glengyle, Comrie Road, Crieff, N.B., farmer, at The Currochs, Monrievaird, and for a period in the Irrawaddy Flotilla Service, left estate of the gross value of £11,476.

Principal McCALL, F.R.C.V.S., and Mr. ANDREW ROBB, F.R.C.V.S., together with the local inspector appointed by the Highland and Agricultural Society, have been appointed veterinary inspectors for the Cawdor Cup Competition at the show at Hawick.

TRANSMISSIBILITY OF TUBERCULOSIS.

Dear Sir,

The *Veterinary Record* of March 21st contains a letter of admonition from Mr. Coleman to Mr. Harold Leeney for daring to support Mr. R. Mond's views on Tuberculosis, and incidentally he tries to belittle Mr. Mond by stating that he is the son of a chemist who has made a lot of money. This forcibly reminds me of the old saying "If you have a bad case abuse your opponent," but that is no argument. Mr. Mond is a worthy and able son of a very able father, and uses his wealth for the advancement of science and the benefit of his fellow creatures. He runs a hospital for infants in London, which is under the intensely keen supervision of Ralph Vincent, M.D. It is from the feeding of a very large number of infants at this institution that Mr. Mond's deductions are chiefly drawn.

I think it would be impossible to find two more unremitting in their efforts to get at the unvarnished truth on this subject than Mr. R. Mond and Dr. Vincent, and we ought not to object to new light, from whatever source, on this terrible scourge. There is yet a great deal to learn about tuberculosis and tuberculin with its uses and abuses. It is only by an honest receptivity of mind, and a willingness to throw off preconceived ideas, that our small profession has been enabled to make such rapid advancement of late years.

D. PUGH, F.R.C.V.S.

Communications for the Editors to be addressed
20 Fulham Road, London, S.W.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1344.

APRIL 11, 1914.

VOL. XXVI.

THE COUNCIL MEETING.

Little need be said of last week's Council meeting. The matter which occasioned most debate was the still unsettled question of the preliminary examination, which has recurred constantly at recent meetings. Some of the discussion that took place upon this might well have been deferred till the July meeting, when the question will be finally decided. Further, it cannot be said that the discussion was very enlightening. Perhaps the clearest utterances came from Sir John M'Fadyean, in moving the adoption of the Preliminary Examination Committee's report, but even he showed a little less than his usual lucidity.

We gather that the Committee proposes to leave our matriculation standard unaltered, while authorising two educational bodies to conduct a "special" examination for intending veterinary students, and we can only infer that the examination will have to be carried on "specially" for us because we are ceasing to have a common standard with the medical profession. But the whole subject might have been made clearer—and ought to have been, considering the time spent in discussing it.

Apparently it is proposed to alter our matriculation syllabus in one respect. Two languages will still be required, but Latin will no longer be a compulsory subject. This is a rather important change, and there is something to be said both for and against it.

Very little else in the report calls for notice. Our Charter, not being dependent upon Parliamentary chances, is making good progress. But, unfortunately, it has been found advisable to spend no more money this Session in trying to push our Bill. The hopeless position of the Bill at present justifies the decision. But meanwhile the fact that the Treasurer has been authorised to sell another £1000 worth of Consols shows how sorely the measure is needed.

THE INTERNATIONAL VETERINARY CONGRESS.

Great progress has been made in every direction during the last few weeks with regard to this Congress. The arrangements for the meetings and subsequent tour are now far advanced, and dona-

tions have lately been coming in well. At present there is every indication that the Congress will be a successful one. But the time is now drawing near—the Congress will be over four months hence—and those who intend to subscribe, and have not yet done so, should delay no longer. New donations to the Fund will still be welcome, and all promised ones should now be regarded as due.

THE "ARMAGH DISEASE."

The 1912 outbreak of foot-and-mouth disease in Ireland brought to light what seems to be a new form of bovine stomatitis. It is mentioned in the English Board of Agriculture's 1912 veterinary report, and is dealt with at much greater length in the special report upon foot-and-mouth disease in 1912 issued by the Irish Department. When first noticed during the rigorous inspections of 1912, its lesions were suspected to be old ones of foot-and-mouth disease; and there was some difference of opinion on this point between the Irish and English authorities. Eventually the disease was traced back to Armagh; a farm was found with cattle showing it in various stages; and here it was definitely ascertained that the condition was not foot-and-mouth disease. Subsequently the disease was investigated by Prof. Mettam, whose results are published in the Irish Departmental report.

The disease is contagious amongst cattle—especially young ones—but is not transmitted to sheep and pigs. The lesions are confined to the mucous membrane of the mouth—the lips, tongue, and dental pad. They consist essentially in a very superficial loss of epithelium over areas of varying size and shape, which tend to extend and coalesce.

The only portion of the tongue affected is that bearing horny papillæ, which are completely removed, leaving the tongue like that of a newly-born calf. The loss of epithelium, however, is never deep enough to cause trouble. There is no vesiculation, no salivation or soreness of the mouth, and no disturbance of temperature, appetite, or rumination. The animal is in normal health to all appearance, and the condition is only detected by opening and examining the mouth.

So far, attempts to isolate a causal organism have been unsuccessful. The disease is a mild one, and veterinary surgeons are seldom or never asked to treat it. But it has a certain importance on one account—experience has shown that it is possible to mistake an isolated case for one of foot-and-mouth disease; for that reason it is well to remember that such a condition exists so near to us, and Prof. Mettam's account of it in the Irish report is worth reading.

THE EFFECT OF AN INJECTION OF MALLEIN ON THE SERUM DIAGNOSIS OF GLANDERS.

By BASIL BUXTON, F.R.C.V.S.

Since the discovery of the causal organism of glanders by Loeffler and Schutz in 1883, numerous attempts at an improvement in the methods of diagnosis have been made.

The only method originally available consisted in the isolation of the infective agent, and was confined to the demonstration and cultivation of the organism. Later it was found possible to reproduce the disease by inoculation of infected material into susceptible animals, and this method of diagnosis still persists, the guinea-pig being perhaps the most suitable animal for the purpose, and the characteristic reaction first described by Straus being regarded as diagnostic of the disease.

The most important agent, however, in the diagnosis of glanders was the biological product of the bacillus mallei, generally known as mallein. The method of preparation of this agent, and its efficacy are well known, and while numerous veterinarians on the Continent are dubious as to its general utility, clinicians in this country appear to have obtained more satisfactory results. It is certain that without the aid of mallein it would have been impossible to have reduced the occurrence of glanders to the state which now exists.

Based upon the ophthalmic reaction for tuberculosis, Frohner (11) carried out a number of experiments with precipitated mallein in the case of glandered horses and numerous healthy controls. As a result of his observations he came to the conclusion that the ophthalmic test was superior to either the subcutaneous or cuti reactions, and urged that it should become a routine method of diagnosis.

There are, however, some cases in which the efficiency of mallein as a diagnostic agent cannot be entirely relied upon, namely, those instances in which an atypical reaction is obtained on more than one occasion in the same animal. It is in such cases that the methods of serum diagnosis have been specially advocated. The most important of these methods are the agglutination and complement binding tests.

The agglutination test as a means of diagnosing glanders was first suggested by M'Fadyean in 1896, but was not generally adopted until the method was perfected by Schutz and Miessner, whose results were published in 1905 (12). It has since been employed in practically every country where glanders exists, and ample opportunity has, therefore, been furnished for observing its practical diagnostic value.

While there is no doubt that the agglutination test is of great value in cases of recent infection and of a virulent type, the blood in such cases showing an agglutinating titre of 1-1000 or higher, experi-

ence has shown that in the case of chronic glanders an agglutinating titre as low as that of normal horses (1-400) is frequently encountered, while on the other hand cases have been recorded in which the agglutinating titre of normal serum has been found to be as high as 1-800 and further, where the curve has been followed for some time, variations have been exhibited in the titre of normal horses.

As a result of the important researches of Bordet and Gengou concerning the phenomenon of hæmolysis, and the subsequent investigations of Ehrlich, Morgenroth, Sachs and others, it was found to be possible to apply an even more delicate test to the diagnosis of glanders—the "Complement Fixation" test, which was first suggested in this connection by Schutz and Schubert (2) in 1909. Hutyra and Marek (4) concluded, as a result of numerous tests carried out by them in 1910, that "the diagnosis of glanders by the complement fixation test has already given such accurate results that it may be considered as the best method for the determination of this disease at the present time." In 1911 Moller and Eichhorn (3) published the results of an extensive series of experiments carried out by them, in which the superiority of the complement fixation test over other known methods of diagnosis was amply demonstrated.

While nobody has apparently doubted the specificity of the methods of serum diagnosis for glanders when such constituted the primary test, yet recently it has been stated by various investigators that a previous injection of mallein rendered the serum tests unreliable, since as a result of the mallein injection, both agglutinating and complement binding antibodies were produced far in excess of those normally present in the blood of healthy horses. While it was well known subsequent to the work of Pokschischewsky and Fedorowsky (5) that an injection of mallein produced a marked increase in the production of these specific antibodies in animals affected with glanders, either by natural or artificial means, it was not recognised until recently that such a stimulation occurred in the case of non-infected animals.

In the latter case some doubt appears to exist concerning the time at which such a production of antibodies occurs, and the period over which the high titre is maintained. Bonome (6) was of opinion that the high agglutinating titre exhibited by such treated animals did not last for more than 5 to 7 days, and Arpad (7) showed that an agglutinating titre of 1-1200 to 1-1600 began to fall after 7 days. Miessner (8) found that the agglutinating titre began to rise in from 5 to 7 days after the injection of mallein, the maximum being attained towards the end of the second week, while the normal was regained in from 4 to 6 weeks. Arpad Marcis (9), as a result of experiments carried out on two animals, a stallion and a foal, came to the conclusion that after an injection of 5 cc. mallein there was a production of agglutinating and complement binding antibodies far in excess of the normal. He was able to demonstrate an increase in the former in from 5 to 7 days, and in the latter in from 6 to 10 days after the mallein injection, and

* Read at the meeting of the Central V.S., held at 10 Red Lion Square, W.C., on Thursday, April 2nd.

found that the titre in each case began to fall in from 2 to 3 weeks, and in 3 months had regained the normal. Mohler and Eichhorn (10), on the other hand, are of the opinion that the immune bodies produced as a result of the stimulation of the mallein injection will have disappeared in from 7 to 10 days.

There seems, therefore, to be some doubt concerning the period over which this excess of immune bodies persists, and also the time at which the increase begins. The following experiments have been carried out with a view to acquiring a more exact knowledge of these facts.

The following is a brief description of the technique employed in carrying out the tests.

TECHNIQUE OF THE AGGLUTINATION TEST.

The antigen consisted of a saline suspension of *B. mallei* of a standard concentration, the organism being obtained from a 24 hours old surface culture on agar or blood agar.

The blood to be tested was obtained in the ordinary way from the jugular vein in the case of the larger animals, and from the ear veins in the case of the smaller laboratory animals.

The blood (2-3 c.c.) was collected in test tubes, which were placed in the incubator or water bath at 37° C. in a slanting position until the serum had separated off.

In the routine examination the following dilutions of serum were employed:—1:125, 1:200, 1:250, 1:400, 1:500, 1:750, and 1:1000.

If the blood from several animals was being tested, the pipette was thoroughly washed between each sample, and was always rinsed out with saline between each dilution, in order to avoid any abnormal results in the higher dilutions consequent upon a trace of serum having been left in the pipette.

The dilutions having been made, 1 c.c. of antigen was added to each tube, followed by 1 c.c. of the diluted serum. The tubes were then well shaken and incubated overnight at 37° C. In recording the results of the agglutination test, if the last tube containing 1/1000 c.c. of serum showed complete agglutination, the titre was said to be less than 1/2000. If the last tube showed nearly complete agglutination, the titre was recorded as equal to 1/2000. If the last tube showed only a trace of agglutination, while the next to the last showed complete clumping, the titre was said to be equal to 1/1500.

TECHNIQUE OF THE COMPLEMENT FIXATION TEST.

The following reagents were employed in the quantities stated:

- (a) The serum to be tested.
- (b) The complement 0.05 c.c., *i.e.* 0.5 c.c. of a 1 in 10 dilution.
- (c) The antigen 0.5 c.c. of required concentration.
- (d) The hæmolysin 0.001 c.c., *i.e.* 0.5 c.c. of a 1 in 500 dilution.
- (e) The red cells (sheep) 0.5 c.c. of a 5 per cent. suspension.

The proportions recommended by Surface were also employed to control the results obtained with the above system, *viz.*:

- (a)
- (b) 1.5 times amount required to produce hæmolysis.
- (c) As required.
- (d) 0.25 c.c. of a 1 in 50 dilution (5 times amount required to produce hæmolysis).
- (e) 0.5 c.c. of a 2 per cent. suspension.
- (a) The serum was obtained in the same manner as for the agglutination test, and the following routine dilutions were employed: 0.3, 0.2, 0.1, 0.05, 0.02, 0.01.

(b) The complement consisted of fresh guinea-pig serum suitably diluted.

(c) The antigen consisted of either a saline suspension of *B. mallei*, which had been killed by heating for 1 hour at 60° C., or a solution of precipitated mallein, and in some cases the antigen was prepared by dissolving the bacterial cells in a 10 per cent. solution of anti-formin. The dissolved bacterial substance was then precipitated with alcohol, separated by centrifuging and suspended in saline solution. A fourth method of preparing the antigen was to *alternately* freeze and thaw a suspension of the organisms, the mixture being well shaken between each thawing and subsequent freezing.

The amount of antigen employed in each case was one-half the quantity required to produce self deviation, *i.e.* to absorb the amount of complement used.

(d) The hæmolysin was horse serum sensitised by sheeps red cells, and possessing a hæmolytic titre of 0.001.

(e) The second antigen—sheeps red cells were obtained in the ordinary way, and had been washed three times in normal saline solution.

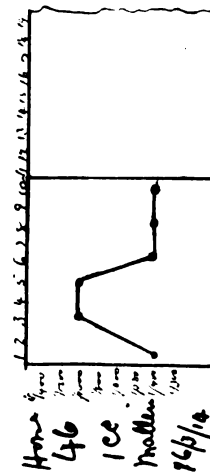
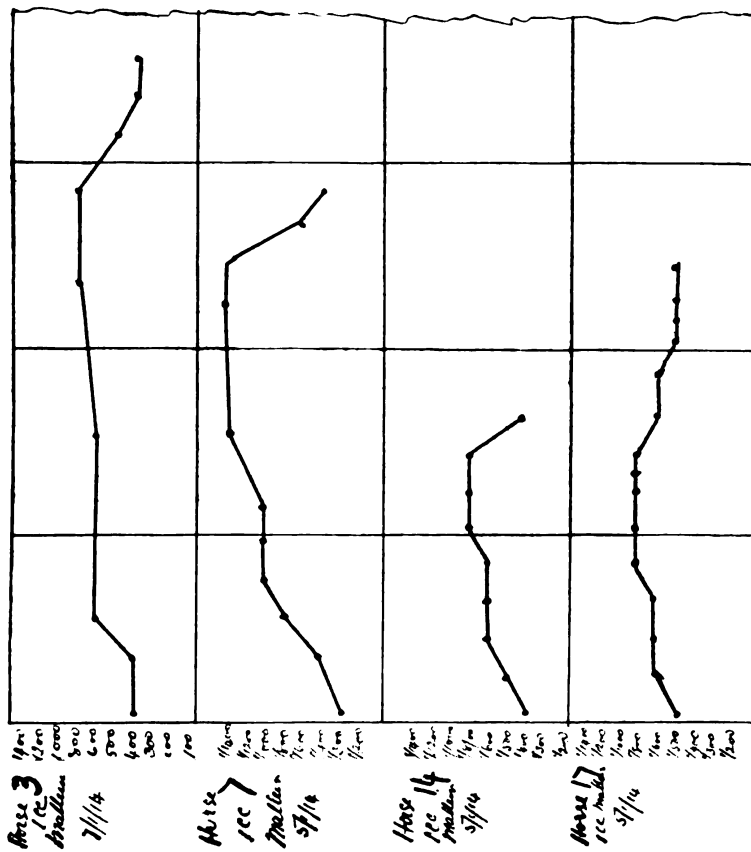
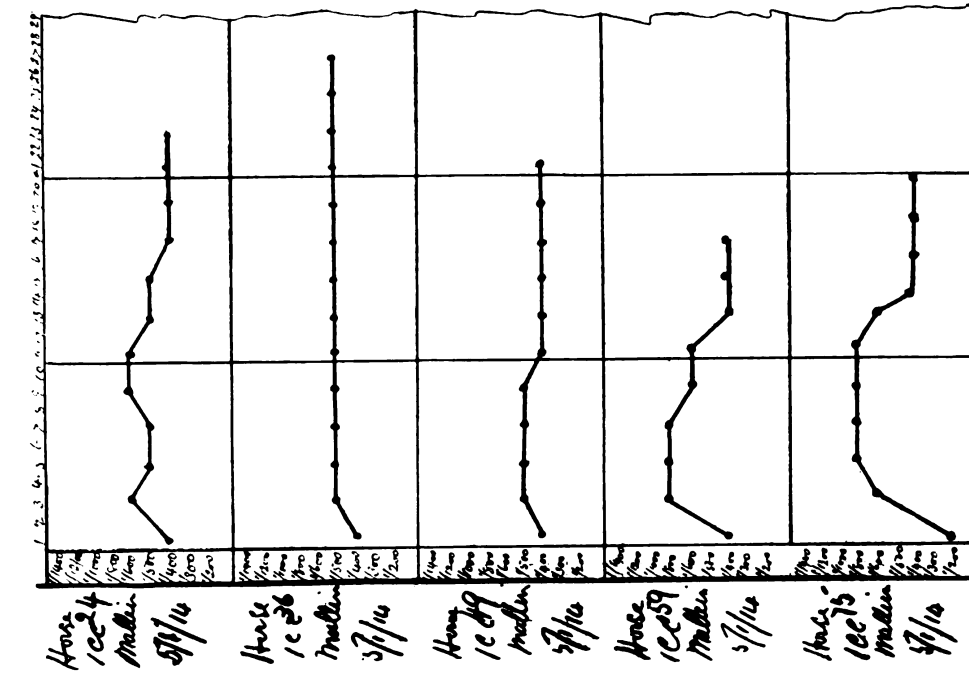
All reagents were titrated before use.

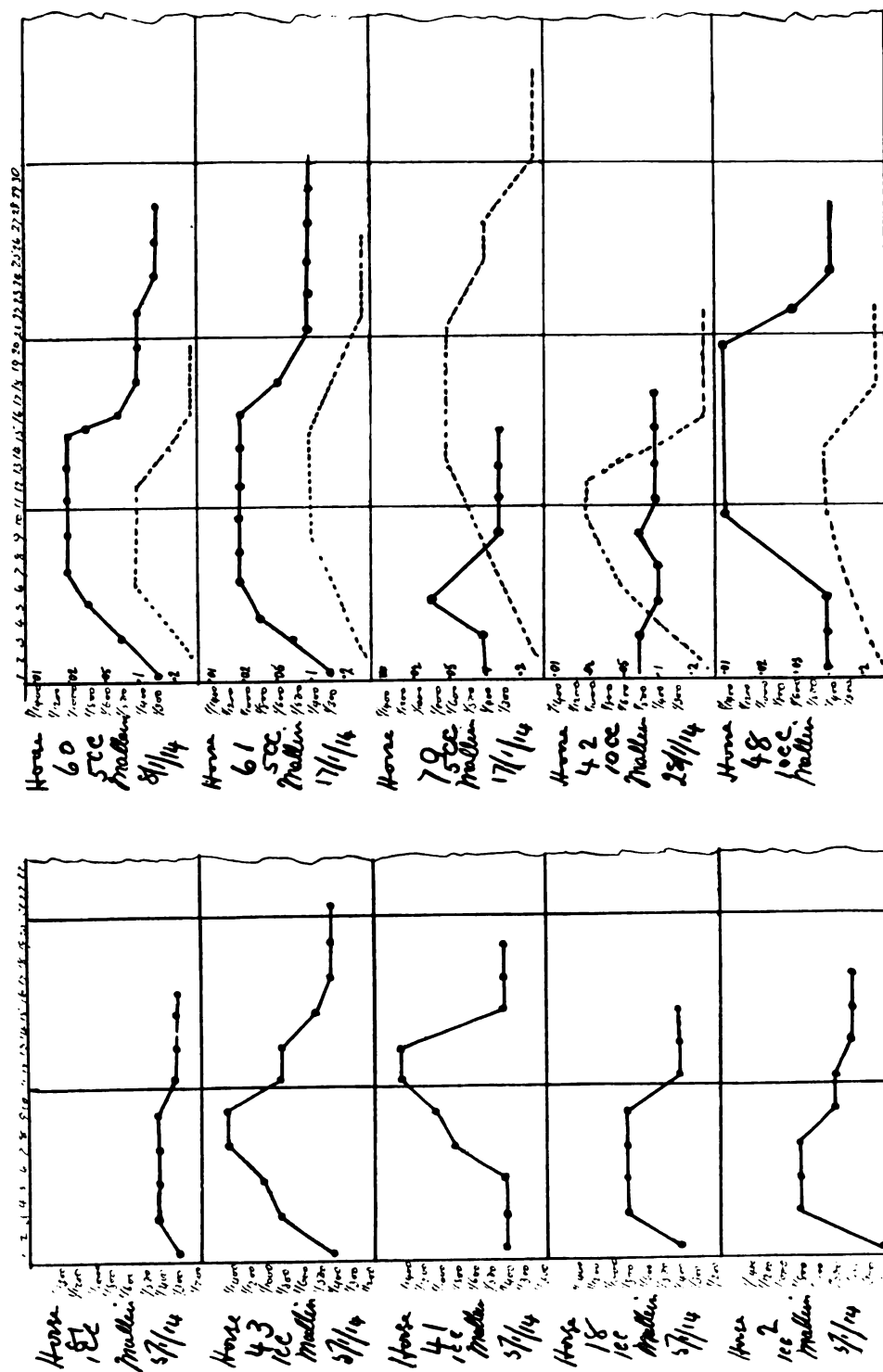
A water bath at 40° C. was used in place of the thermostat at 37° C., a considerable saving in time being in this way effected, since the results could be read at the end of 20 minutes instead of one hour. Control experiments were also carried out, in which the water bath was used at 37° C. for one hour.

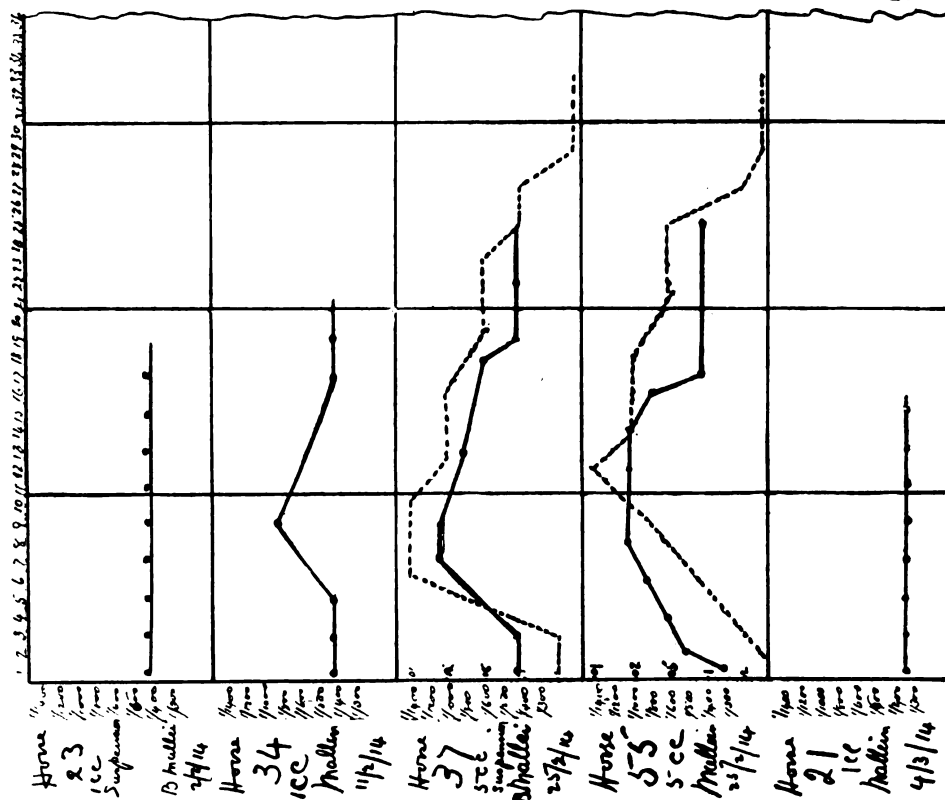
The test was put up in the ordinary manner. Into each of a number of clean bacteriological test tubes was placed 0.5 c.c. of a 0.9 per cent. saline solution, followed by the required amount of antigen (ascertained from the titration of the antigen). 0.5 c.c. of a 1/10 complement was then added, followed by varying dilutions of the serum which it was required to examine, and which had previously been inactivated by heating for 1 hour at 56° C.

At the same time control tubes were put up containing all the constituents with the exception of the serum to be tested.

The tubes were then agitated to thoroughly mix the contents, and were left in the water bath at 40° C. for 20 minutes. At the end of that time, 0.5 c.c. of a 1/500 inactivated hæmolytic serum was added, and 0.5 c.c. of a 5 per cent. suspension of sheeps red cells. The tubes were again agitated,







and left for a further 20 minutes, when the readings were taken. The highest dilution showing no hæmolysis was taken as representing the complement binding titre of that serum.

AGGLUTINATION EXPERIMENTS.

In all 74 horses were used for these experiments. Of these 47 were being immunised against various bacteria or toxins, and with only two exceptions the results obtained with the blood of these horses were similar to those obtained with the blood of the remaining 27 normal horses. For the purpose of this paper it is sufficient if I confine my remarks to the results obtained with the latter. In all these experiments 1 c.c. mallein is equivalent to 0.1 c.c. concentrated mallein, and the normal agglutinating titre varied from 1/100 to 1/500.

Horse 3 received 1 c.c. mallein—normal titre 1/400. No rise was shown until the 6th day, when the titre was 1/600. From the 6th until the 23rd day, no variation was noticed, but from then until the 28th day the titre was 1/800, whence it fell steadily until on the 33rd day it had again reached the normal, which was maintained.

Horse 7 received a similar dose, but showed a quite different curve. Normal titre 1/300. 4th day 1/400, 6th day 1/800, 8th day 1/1000, with a steady rise until the 15th day, when it was found to be 1/1400. This titre was maintained until the 25th day, after which it fell steadily until the 29th day, when the normal was regained.

Horse 14 received 1 c.c. mallein. On the 5th day the titre had risen from 1/400 to 1/600; on the

11th day it had reached 1/800, where it remained until the 15th day, after which it fell sharply to 1/400 on the 17th day.

Horse 17. Normal titre 1/500, received 1 c.c. mallein. On the third day the titre was 1,600, the next rise being on the 9th day, when it had reached 1/800. On the 16th day it had fallen to 1/600, and on the 21st day to 1/400.

Horse 24. Normal titre 1/400, received 1 c.c. mallein, and showed a rather peculiar curve. On the 3rd day the titre had risen to 1/600; on the 5th it fell to 1/400—rose again on the 9th to 1/600, and fell again on the 13th to 1/400, which was maintained.

Horse 36. Normal titre 1/400, received a similar dose to the above. On the 3rd day the titre rose to 1/500, and remained constant for 27 days.

Horse 49 received 1 c.c. mallein. The titre rose from 1/400 to 1/500 on the 3rd day, and returned to 1/400 on the 11th day.

Horse 59. Titre rose from 1/400 to 1/800 on the 3rd day, fell to 1/600 on the 9th day, and to 1/400 on the 17th day.

Horse 75. 1 c.c. mallein. Titre rose from 1/200 to 1/800 on the 5th day, fell on the 11th day to 1/600, and on the 13th day to the normal.

Horse 81 received 1 c.c. mallein. The titre rose from 1/300 to 1/400 on the third day, remained constant until the 9th day, and again fell to 1/300.

Horses 43 and 41 each received 1 c.c. of mallein. In the case of the former the titre rose sharply to 1/1400, which was reached on the 7th day, while that of horse 41 showed no rise until the 5th day,

when the titre began to rise sharply to 1/1400, which was reached on the 11th day. In the case of horse 41 there was a drop from 1/1400 to 1/400 in three days, while the titre of horse 43 fell more gradually, and did not reach the normal until the 17th day.

Horses 18 and 2 each received 1 c.c. of mallein, and in each case the titre rose to 1/800 only, and had regained the normal on the 11th and 9th days respectively.

Horses 60, 61, and 79 each received 5 c.c. mallein. The titre of the first rose from 1/300 to 1/1000 on the 7th day, began to fall from the 15th day, and had regained his normal by the 24th day. That of the second horse showed a very similar curve, but remained at 1/1000 for two days longer than in the case of horse 60.

The titre of horse 79 rose on the 3rd day from 1/400 to 1/600, and immediately began to fall, 1/300 being reached on the 9th day.

Horses 42 and 48. Received 10 c.c. of mallein each, and while in the case of the former there was no rise in the agglutinating titre shown, that of the latter rose from 1/400 to 1/1400 on the 5th day, remained constant until the 19th day, and fell sharply to the normal, which was reached on the 25th day.

Horse 23 received 1 c.c. of a saline suspension of killed *B. mallei* subcutaneously. No rise in the agglutinating titre was shown, however.

Horse 37 received 5 c.c. of the same suspension as horse 23. The agglutinating titre rose from 1/400 to 1/1000 between the 3rd and 7th days, whence it gradually fell, until the normal was reached on the 19th day.

Horse 55 received 5 c.c. of mallein and showed a curve which resembled very closely that of horse 37.

Horses 34, 21, 46 each received 1 c.c. of mallein. The first rose on the 5th day from 1/400 to 1/800, and fell gradually to the normal, which was reached on the 17th day.

Horse 21 showed no titre, while that of horse 46 rose on the 3rd day from 1/400 to 1/1000, and between the 5th and 7th days fell again to the normal.

Horses 57, and 58 each received 1 c.c. of mallein. The normal agglutinating titres were 1/200 and 1/300 respectively, and no rise in titre was produced.

Horses 38 and 33 each received 5 c.c. of glycerine broth, there was, however, no increase in the agglutinins.

Two cows, 1 sheep, 1 goat, 1 dog, 4 rabbits, and 6 guinea-pigs each received 1 c.c. of mallein. In no instance, however, was it possible to demonstrate an agglutinating titre for *B. mallei*.

Two rabbits and 2 guinea-pigs infected with living *B. mallei* gave the following titres: 1/400, 1/1600, 1/1000, and 1/400 respectively.

COMPLEMENT FIXATION EXPERIMENTS.

The blood of all these horses was examined for complement binding properties on alternate days, beginning on the day following the injection of mallein.

Horses 3, 7, 14, 24, 36, 49, 59, 75, 81, 43, 41, 18, 2, 34, 21, 57, 58, and 46, all of which received 1 c.c. of mallein, at no time showed any complement binding titre to any of the antigens employed.

Horses 60, 61, 79, and 55, each of which received 5 c.c. of mallein gave complement binding titres of 0.1, 0.1, 0.05, 0.01 respectively, but only when mallein was used as the antigen. In no case was any titre shown with an antigen prepared from the actual organisms.

Similar results were obtained with the blood of horses 42 and 48, which received 10 c.c. of mallein each, the complement binding titre to mallein being 0.1 and 0.02 respectively.

Horse 23 which received 1 c.c. of a saline suspension of *B. mallei* did not show a titre with any of the antigens.

Horse 37, however, which received 5 c.c. of the above suspension gave a titre of 0.01 when mallein was employed as the antigen, but not in the presence of any preparation of *B. mallei*.

Horse 38 which received 5 c.c. of glycerine broth did not give any titre to either *B. mallei*, or mallein.

Neither the cow, sheep, goat nor dog gave any complement binding titre to any of the antigens employed. The rabbits and guinea-pigs, however, which had received an injection of mallein showed in the presence of mallein as the antigen, titres varying from 0.1 to 0.02.

The two rabbits and two guinea-pigs suffering from glanders gave the following titres:—

		B. mallei			Mallein
		Suspension	Anti-formin	Frozen & thawed	
Rabbit	(a)	0.01	0.01	0.01	0.02
"	(b)	0.01	0.01	0.02	0.02
Guinea-pig	(a)	0.05	0.05	0.05	0.05
"	(b)	0.1	0.1	0.1	Nil

SUMMARY.

Of the 27 normal horses used in these experiments, 19 received a subcutaneous injection of 1 c.c. of mallein. In three only was the agglutinating titre as high as 1/1400; in one it reached 1/1000; in eight 1/800; in one 1/600; in two 1/200; and four showed no titre.

In the case of the 47 horses which were being immunised against various organisms or toxins, four only gave a titre of 1/100; eleven gave 1/800; and the remaining 32 gave titres which varied from 1/300 to 1/600. Of the animals other than horses which received 1 c.c. of mallein, none showed any agglutinating titre to *B. mallei*, while the two rabbits and two guinea-pigs suffering from glanders gave titres varying from 1/400 to 1/1600 to that organism.

The 19 normal horses which received 1 c.c. of mallein failed to show any complement binding titre in the presence of any of the antigens employed. The same result was obtained in the case of 45 of the 47 horses which were being immunised against various organisms or toxins. The two exceptions were horses being immunised

against gonococcus and meningococcus, each of which gave a titre of 0.1 in the presence of *B. mallei*, but not with mallein as the antigen.

The four horses which received 5 c.c. of mallein, and the two which received 10 c.c. showed complement binding titres to mallein varying from 0.1 to 0.01. Those which received 10 c.c. did not show a higher titre than that which was produced in other horses which received 5 c.c.

In two horses which received 5 c.c. of glycerine broth did not show complement binding titres to either *B. mallei* or mallein.

While the blood of animals, other than horses, which had received 1 c.c. mallein showed no complement binding titre to any of the antigens employed, that of rabbits and guinea-pigs suffering from glanders gave titres varying from 0.1 to 0.01 with the various antigens, and in only one case was a negative result obtained.

A peculiar feature of these experiments was the fact that while the horse which received 1 c.c. of a saline suspension of killed *B. mallei* gave no complement binding titre—the blood of that which received 5 c.c. of suspension gave a marked titre to mallein, but none to *B. mallei*.

In neither the agglutination test nor the complement fixation test was it possible to fix definitely the time at which the titre rose and fell. In the former case it was found to begin to rise between the first and fifth day, and to fall between the fifth and 33rd day, while the complement binding titre began to rise from the first to the 14th day and to fall between the 14th and 31st day,

CONCLUSIONS.

From these experiments it would seem that a subcutaneous injection of 1 c.c. mallein is capable of stimulating in some horses the production of agglutinating antibodies specific for *B. mallei*, and that such a production may take place in from 24

hours to five days after such an injection, and may persist for 33 days, or even longer. If, therefore, it is required to carry out agglutination tests for glanders, the blood should be obtained either before the injection of mallein or not less than one month after.

Since the injection of 1 c.c. of mallein does not appear to stimulate the production of complement binding antibodies specific for *B. mallei*, there does not seem to be any objection to such a test being applied at any time irrespective of the period which may have elapsed since the injection of mallein.

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DISEASES OF ANIMALS ACTS 1894 to 1911, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.		Out-breaks	Slaugh-tered.*
	(a)		(a)		(b)		(b)		(b)	(a)	
IRELAND. Week ended March 28	...	...	5	15	...	...	Outbreaks 1		12	12	27
Corresponding Week in {	1913 ...	...	...	...	...	...	3		11	1	2
	1912 ...	...	...	...	...	...	0		7	8	87
	1911 ...	...	...	...	...	...	4		5	3	9
Total for 13 weeks, 1914	...	1	2	52	520	...	29		288	63	317
Corresponding period in {	1913 ...	...	...	...	...	...	73		210	38	206
	1912 ...	1	1	...	...	...	27		208	52	413
	1911 ...	3	3	...	...	1	33		202	35	666

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, March 30, 1914.
 NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

Royal College of Veterinary Surgeons.

QUARTERLY MEETING OF COUNCIL.

A quarterly meeting of the Council was held on Friday, 3rd April, at 10 Red Lion Square, London, W.C. Mr. J. H. Carter (President) occupied the chair, and the following members were present: Maj.-General Pringle, Maj. General Thomson, C.B., Professors Bradley, Sir John M'Fadyean, Mettam, Share-Jones, and Shave; Messrs. Abson, Banham, Barrett, Clarkson, Dunstan, Garnett, Mason, McI. McCall, Mulvey, Packman, Price, Slocock, Sir Stewart Stockman, Sumner, and Trigger. Mr. George Thatcher (Solicitor), and Mr. Fred Bullock (Secretary).

MINUTES.

The minutes of the last quarterly meeting were taken as read and confirmed.

OBITUARY.

The SECRETARY read the Obituary List.

ADMISSIONS TO MEMBERSHIP.

The SECRETARY announced that Mr. W. B. Howe had been admitted as a member of the College since the previous quarterly meeting of Council.

CORRESPONDENCE.

The SECRETARY announced that letters regretting their inability to attend the meeting had been received from Principal McCall, Messrs. Lawson, McKinna, and Wharam.

The Secretary read the following letter: "Jan. 12, 1914. Dear Mr. Bullock, I have just received your letter, and wish to thank you for the kind expression of sympathy contained therein; and will you convey to the Council the appreciation of both myself and my brother of all the kind things you have said on behalf of my dearly beloved father.—Yours sincerely (Signed) LOUIE HUNTING."

The Secretary read the following letter: "Jan. 24 1914. To the President and members of the Council, R.C.V.S. Gentlemen, on behalf of my brothers, sisters, and myself, I beg to thank you for the resolution of sympathy in our loss, passed at your last meeting. We also feel very touched at the kindly words expressed by Messrs. Mulvey and Mr. Trigger as reported in last week's *Veterinary Record*. My late father up to the last always took a keen interest in the welfare of the profession, and we, his sons, who follow the same calling, are specially gratified at your expressions of respect to his memory. Yours faithfully, A. C. WILSON. Capt. A.V.C. (Ret.)"

The Secretary read the following letter from the Royal Institute of Public Health: "I am desired by the Council to inform you that the Annual Congress of the Institute will be held this year, on the invitation of the Right Honourable the Lord Provost and the City Council of Edinburgh, in the University of Edinburgh. It has been suggested that it would be agreeable to many veterinary surgeons if a section of the Congress were devoted to Veterinary Hygiene and Pathology. The Council are willing to make arrangements for such a section if the suggestion commends itself to the Council of the Royal College of Veterinary Surgeons, and its organisation can be undertaken by the Council of your College, or by such officials of the section as may be nominated for this purpose and whose appointment the Institute will confirm."

Accompanying the letter was a preliminary programme of the Congress, which takes place from July 15th to July 20th next.

The PRESIDENT: I had the pleasure of meeting Mr. Smith, who is the President of the Royal Institute of Public Health, about three weeks ago in London, and he was very desirous that the profession should be represented at this Congress in Edinburgh.

Prof. METTAM: I beg to propose that no action be taken.

Sir JOHN M'FADYEAN: I beg to second that. I may point out, sir, that we have already come to a similar decision with regard to the invitation to attend the meeting of the Sanitary Institute.

The resolution was put and carried.

The SECRETARY read the following letter: "Mr President and gentlemen, I desire to resign my seat on the Council and trust you will kindly accept the same at your next meeting.—Yours faithfully, (Signed) J. S. LLOYD."

The Secretary also read the following letter: "Dear Sir, as it is my intention to apply for the Examinership in Veterinary Surgery and Obstetrics rendered vacant by the death of Mr. Hunting, I regret to formally place my resignation as Councilman in your hands now instead of waiting until June when my place would in the ordinary way of things have become vacant owing to the expiration of time limit. It is with great regret that I do this, as the duties of the Council have always been of a most pleasant nature.—Yours faithfully, F. HOBDAY."

Mr. PRICE: I move that those resignations be accepted.

Mr. BARRETT: I second that.

The resolution was put and carried.

The SECRETARY: I have a letter from a member of the College who wishes me to bring it before the Council, but he says that he wishes it to be strictly confidential. It is with regard to the Imperial Staff, Veterinary Department, in India. Possibly the Council might like to go into Committee to hear the letter read.

On the motion of Sir John M'Fadyean, seconded by Mr. Abson, the Council then resolved itself into Committee.

On the Council resuming its sittings in public,

Mr. TRIGGER: I move that a Committee consisting of Sir John M'Fadyean, Mr. Barrett, Mr. Mulvey, Mr. Price, and Mr. Share-Jones be formed to consider the question referred to in the letter, with authority to act, and, in the event of evidence being given, that Sir John M'Fadyean be asked to represent the Council.

Maj.-General THOMSON: I second that.

The resolution was carried unanimously.

The SECRETARY read the following letter addressed to the President, from Sir Stewart Stockman, the Hon. Sec. of the Tenth International Veterinary Congress: "I am requested by the Organising Committee of the Tenth International Veterinary Congress, which is to be held in London from the 3rd to the 8th August, 1914, to inform you that the subjects which will be discussed include (1) Questions relating to Contagious Diseases of Animals; (2) Veterinary Science in relation to Public Health; (3) Pathology and Bacteriology; (4) Epizootiology; (5) Veterinary Medicine and Surgery, and (6) Tropical Diseases. I am to invite you to honour the Congress by your presence, or to be represented by a delegate. The subscription for ordinary members is fixed at £1. I enclose herewith a form of application for membership, which should be filled up and returned as soon as possible."

Prof. METTAM: I propose that the invitation be accepted, and that the President for the time being be appointed the delegate of this Council.

Mr. MULVEY: I second that.

The resolution was carried unanimously.

FINANCE COMMITTEE.

Mr. MASON read the following report of a meeting of the Finance Committee, held on Friday, 3rd April:—

Chairman: The Secretary reported that a letter had been received from Mr. A. Lawson, Chairman, stating that he was unable to attend owing to illness.

It was resolved—That Mr. A. W. Mason be appointed to the Chair, and, that a letter be forwarded to Mr. Lawson expressing the regret of the Committee at his illness, and the hope that he would soon be recovered.

Financial Statement: The Treasurer submitted his financial statement for the quarter, showing an adverse balance of £46 10s. 10d., and liabilities amounting to £149 0s. 8d.

It was resolved—That the financial statement be approved, and that the Treasurer be ordered to pay the liabilities shown, together with cheques for monthly salaries, petty cash, insurance, Fellowship examiners' fees, gas, and electric light. That the Treasurer be empowered to sell out £1000 Consols if found necessary.

International Veterinary Congress. The question of the forthcoming International Veterinary Congress, referred to this Committee by the Parliamentary Committee, was considered, but the Committee decided to make no recommendation.

Register, 1913. The Secretary submitted the publishing account in connection with the Register, 1913, which was considered to be very satisfactory.

Sir JOHN M'FADYEAN: Might I ask the Chairman of the Committee whether the question considered in relation to the International Veterinary Congress was the propriety of this Council making a donation to the expenses?

Mr. MASON: Yes. It was thoroughly discussed, and the Committee decided to make no recommendation.

Sir JOHN M'FADYEAN: I can only say that I think when the list of donations comes to be scrutinised hereafter it will strike impartial observers as very remarkable that outside bodies, such as the Royal Agricultural Society of England, the Highland and Agricultural Society of Scotland, and various Councils of the Breed Societies have given substantial donations to this purely Veterinary Congress, and that this body has not given anything, but I make no counter proposition, sir.

Mr. MULVEY: I presume all those bodies are in a fairly good financial position, and are not, as this College is just now, in an impecunious position.

Sir JOHN M'FADYEAN: That is the reason, may I suggest, that it ought to have been embodied in the report of the Committee meeting.

Prof. METTAM: I should just like to say that the question was only brought up in an informal fashion. The Committee had no application from this Congress before it. It was merely a general talk round the table, and the Committee decided to make no recommendation because nothing had been put before us.

Sir STEWART STOCKMAN: I would like to say that I think that ought to appear on the minutes as an explanation, because it says the question was considered.

Mr. TRIGGER: The Committee thoroughly threshed it out, and thought this was the more dignified attitude to adopt.

Mr. MASON: I should like to say, as Chairman, in answer to the several questions or insinuations that have been thrown out, that the reason no recommendation was made was that the College is not in a position to give a sum of money to a certain fund for entertainments. The word used was "Entertainments." We are not in a position to give an entertainment. I also should like to say, on behalf of the Chair in defence of the Committee's action, that we have had no application asking us for anything yet.

Mr. TRIGGER: There was another matter mentioned at the meeting of the Committee which it was thought

should be brought before the Council so that it could be brought to the notice of the profession, and that was in regard to the Registrar. We thought the excellent results that our Registrar has been able to produce, in the shape of converting what used to be a very heavy yearly debit into a small profit, or really a reasonable profit, should be called attention to—(hear, hear)—as it is very much to the credit of the Registrar. I think the Council might have the figures before them, if you would kindly read them out.

The PRESIDENT: The Secretary will read the figures out.

The SECRETARY: The publishing account for the Register for 1913 shows receipts from advertisements £24 10s.; from sales £47 12s. 2d., making total receipts of £72 2s. 2d. The expenditure on printing and binding was £60, and on postages £4 9s. 0½d., the balance, profit on the year, being £7 13s. 1½d. In addition 167 free copies were issued to new graduates, to members of Council, to public libraries and other institutions.—(Cheers.)

The PRESIDENT: I think that is very satisfactory, gentlemen. (Hear, hear.)

On the motion of Mr. Abson, seconded by Mr. Trigger, the report of the Finance Committee was then unanimously adopted.

PRELIMINARY EXAMINATION COMMITTEE.

Mr. MULVEY read the following report of a meeting of the Preliminary Examination Committee held on Thursday, April 2nd:

Present: Mr. W. J. Mulvey in the Chair, Dr. Bradley, Mr. Carter, Sir John M'Fadyean, Prof. Mettam, and Mr. Share-Jones.

Preliminary Educational Examinations. It was resolved—

(a) *List of Examinations.* That, in addition to the examinations included in the present Schedule I, the following examinations recognised by the General Medical Council be approved:—

Final Examination for a Degree in Medicine of any University in the United Kingdom.

Oxford and Cambridge Schools' Examination Board: The School (or Leaving) Certificate Examination.

University of Durham: Matriculation Examination of the Faculties of Medicine, Science, Letters and Music.

University of Birmingham: Senior School Leaving Certificate.

University of Dublin: (1) Junior Freshman Term Examination (exclusive of Trigonometry).

(2) Special Preliminary Examination to be held in March, the standard and subjects of which shall be those of a Junior Freshman Examination (exclusive of Trigonometry).

(3) Junior Exhibition Examination on obtaining marks of sufficient merit in the subjects of (a) or (b).

University of Calcutta: Matriculation Examination, Intermediate or Final Examination for Bachelor's Degree in Arts or Science.

University of Madras: Intermediate Examination.

University of Allahabad: Matriculation Examination.

University of Manitoba: Matriculation Examination.

University of Hong Kong: Matriculation Examination in Medicine.

(b) That the following Educational Examinations be approved:—

College of Preceptors: Preliminary Examination in General Education. (The required subjects to be passed at one time).

Educational Institute of Scotland: Preliminary Examination in General Education. (The required subjects to be passed at one time).

Carried with one dissenter.

(c) That, with the exception of the examinations mentioned in paragraph (b), the required subjects must be passed at not more than two examinations.

(d) *Required subjects.* That the required subjects be as follows:

1. English (grammar, paraphrasing, composition, questions on British history and geography).

2. Mathematics (arithmetic, algebra, including easy quadratic equations; geometry, including the subject matter of Euclid, Books I., II., III., and simple deductions).

3 and 4. Two of the following subjects: Latin, Greek, French, German, or any other modern language, (Grammar, translation into English from unprescribed books; translation from English).

(e) That Schedule I, as revised in accordance with the above recommendations, be suspended at once for approval by the Council in due course.

Bristol University Schools' Examination. An application was received from the Bristol University for the recognition of the schools' examination, and it was resolved—That the examination be not recognised until it has been approved by the General Medical Council.

Mr. MULVEY: I move the reception of the report, sir, and in doing so I desire to say that I do not agree with all the recommendations made by the Committee. You will notice, sir, that there were present at the meeting yesterday four representatives of schools and two laymen, one of whom, myself, occupied the Chair, and therefore did not vote. I should like to mention also that in taking the vote there were two gentlemen who approved of all these recommendations; there were two others who signified their acquiescence by their silence, and another one, Mr. Share-Jones, who entered an objection. I, myself, being in the Chair, did not vote. Sir, I deprecate very much any retrograde movement in the way of education connected with this body. (Hear, hear.) You will notice that we are proposing a different examination altogether from what we have hitherto held. You will notice that at the present time it is stated under Clause 3 on page 83:—"College of Preceptors: Examinations for first-class certificate (the required subjects to be passed at once, or not more than two examinations). Preliminary examination for medical students (the required subjects to be passed at one time). Educational Institute of Scotland: Preliminary medical examination (the required subjects to be passed at one time). Royal College of Physicians and Surgeons in Ireland: Preliminary examination (the required subjects to be passed at one time)." It is proposed by this Committee to substitute for that an examination by the College of Preceptors, which is styled a "preliminary examination in general education," and in the Educational Institute of Scotland a "preliminary examination in general education." It goes on to define what that examination shall consist of, but nothing is said as to how these subjects are marked. These subjects can be taken at any continuation Board School, and are examined on daily in London at all events. So that it seems to me that you are really lowering the tone of your entrance examination.

Sir JOHN M'FADYEAN: That is an absolute misrepresentation of the intention, and in reality of the effect, of the recommendation of the Committee.

Mr. GARNETT: I rise to a point of order, sir. The point which we have to consider just now is the Report of the Preliminary Examination Committee. What we are listening to at the present moment is a second reading speech.

Sir JOHN M'FADYEAN: The report has not been received yet.

Mr. MULVEY: I am moving the reception of the report, and on the motion for the reception of the report I am entitled, according to all the laws of debate, to say something on the question.

The PRESIDENT: Let us get it received first, and then we can discuss it afterwards.

Mr. MULVEY: I have finished; I have said all I want to say.

Sir JOHN M'FADYEAN: To put the thing in proper order, I will second the motion that the report be received.

Sir STEWART STOCKMAN: Do I understand that Mr. Mulvey's motion is that the report be received or not received? I am under the impression that he was moving that it be not received.

Mr. MULVEY: I have moved nothing except that it be received.

Sir JOHN M'FADYEAN: I second that.

Mr. MULVEY: Not adopted.

The PRESIDENT: It is moved and seconded that the report of the Preliminary Examination Committee be received.

The resolution was put and carried.

Sir JOHN M'FADYEAN: Sir, as the Chairman of the Committee has definitely stated that he will not move the adoption of the report, I will take that duty on myself; and I take the opportunity to say that in my opinion the Chairman of the Committee has absolutely misinformed the Council, no doubt quite intentionally—(Much laughter)—I meant quite unintentionally—(Laughter)—that was too obvious a slip—as to the intentions of the Committee, and the effect of recommendations which they have made. It will be in your recollection that Mr. Mulvey said, or indicated, that we were recommending a step which would have to be considered as retrograde. I should like to tell the Council what the intention of the majority of the Committee was, and you will judge from that whether our intentions were retrograde or not. Our intentions were to leave the standard of the Preliminary Examination in the meantime absolutely where it has been. We suggest no alteration, except that the Educational Institute of Scotland and the College of Preceptors should be authorised to conduct a special examination for intending veterinary students on the same standard as the examination which they have been conducting during recent years. I challenge Mr. Mulvey to deny the accuracy of that, and I further challenge him to deny that that will be the effect, and the sole effect, of these recommendations, if the bye-laws are altered in accordance with the recommendations. I do not think it would be desirable to have a long discussion on this question at the present time, because the recommendations cannot be put in force until they are passed by the Council after due notice, and any discussion that we have now would inevitably have to be repeated next July. If, however, it is decided that it is desirable that we should discuss now whether we should raise the standard of the Preliminary Examination or leave it where it is, I reserve to myself the right to join in the discussion. Meanwhile, I move that the report be adopted.

Mr. SHARE-JONES: I have an addendum to move to the report; it is not an amendment. Sir John knows exactly the resolution which is in my mind. I am prepared to vote for the report as it stands at present if you will permit me to move afterwards the addition to the resolution which I moved in Committee yesterday, so that it may be put to the vote of the Council. (Several members: What is it?) It is an addendum. It is not an amendment.

Mr. MASON: Read it.

Sir JOHN M'FADYEAN: It is with regard to the science subjects, is it not?

Mr. SHARE-JONES: No, with regard to the date upon which the higher standard certificate may be accepted.

Sir JOHN M'FADYEAN: That is not directly an amendment to the report.

Mr. BARRETT : Read it.

Mr. SHARE-JONES : The addendum is this : "That on and after December 31st, 1915, the standard demanded in the subjects of the Preliminary Certificate presented shall be that now required by the General Medical Council."

Mr. SUMNER : That has been passed already.

Sir JOHN M'FADYEAN : The majority who are on the Committee cannot accept that. It seems to me the proper way to test the feeling of the Council with regard to that, is to give notice of your intention to have the bye-laws altered in accordance with that resolution.

Mr. SHARE-JONES : If we are to stick to red tape, Sir, I should like to draw your attention to the resolution of the Council last July which states specifically that the principle of raising the standard of our Preliminary Examination has been approved by this Council. We do not raise it on a quibble ; we allowed it to go back last time. It had been previously approved on the unanimous vote of the Council. I am sorry, Sir John, but after that resolution, which is on the Minutes, I certainly should like, and I think the Councillors present to-day would like, to have an opportunity of voting again on that principle.

Sir JOHN M'FADYEAN : You will have the opportunity.

Mr. SHARE-JONES : If you allow me to move that to test the feeling of the Council, I will vote for the report as it stands at present—if you will allow me to move that addendum afterwards as a resolution.

A MEMBER : We cannot stop you.

Sir JOHN M'FADYEAN : Mr. Share-Jones is quite out of order, if he will allow me to say so, in making these offers to me ; I have nothing to do with what the Council will decide on these matters when they come up. I do not care whether the report of the Committee is adopted or not ; it is my intention formally to give notice that the bye-laws be altered in accordance with these recommendations, and the matter will come up for discussion at the next quarterly meeting.

Mr. SHARE-JONES : I move now that there be added to the Report : "That on and after December 31st, 1915, the standard demanded in the subjects of the preliminary certificate presented shall be that now required by the General Medical Council."

The PRESIDENT : At the present time ?

Mr. SHARE-JONES : Now.

Sir JOHN M'FADYEAN : On a point of order, Sir, I submit that it is absolutely improper for Mr. Share-Jones without previous notice to ask the Council to vote on that subject, because it involves an alteration of bye-laws—(hear, hear)—and if it is allowed Mr. Jones will be no further forward than he is now.

Mr. SHARE-JONES : I am very sorry, but I must remind the members of the Council of what occurred yesterday. I was told distinctly yesterday that I might bring this matter up, and that the proper thing for me to do was to bring this matter before open Council to-day. Practically the same thing was told to the Chairman of the Committee ; he was told yesterday that it would be a proper opportunity, and a fine opportunity, for him to make a speech on the question here to-day ; and yet when we come and take the steps which we were practically recommended to take we are met with these objections.

Sir JOHN M'FADYEAN : I really cannot allow that to pass. What I said was that you would have the right to make a speech before the Council touching the question of the acceptance of the report. I never suggested that you would be in order in moving formally an alteration of the bye-laws.

Mr. TRIGGER : I rise to a point of order.

Mr. SHARE-JONES : I have the promise of the President to move this after the adoption of the report.

Mr. BARRETT : On a point of order, Sir, there seems to be some conflict between the two schools of thought as to this preliminary examination. Personally, I have not considered the matter, nor have I made up my mind, but I submit Mr. Share-Jones is perfectly in order in moving any amendment or any addendum to this Report.

The PRESIDENT : After it has been adopted.

Mr. BARRETT : No, before.

The PRESIDENT : Not according to the Solicitor's ruling.

Mr. BARRETT : Does Mr. Thatcher say so ?

The PRESIDENT : Yes. It can be moved after the adoption. The adoption of the report of the Preliminary Examination Committee has been moved and seconded. I will now put the motion.

Sir JOHN M'FADYEAN : Do I understand that Mr. Barrett wanted to give some reasons against the adoption of the report, because if so, surely he should give them now.

Mr. BARRETT : No, not against the adoption of the report, but I submit, with due deference to Mr. Thatcher's advice, that Mr. Share-Jones is perfectly entitled to move any amendment that he pleases.

The PRESIDENT : Afterwards.

Mr. BARRETT : And that it will be preferable to vote on the suggestion before the report is adopted. We have done that over and over again in regard to the reports of other committees.

The PRESIDENT : I am simply going on the ruling of the solicitor.

Mr. BARRETT : If Mr. Thatcher says the other way I will sit down.

Mr. THATCHER : The proper course, it seems to me, is this, that the motion for the adoption of the report will now be put. If it is adopted, well and good ; then Mr. Share-Jones has a right to move a resolution on the subject.

Mr. SUMNER : After its adoption ?

Mr. THATCHER : Yes. But after all his resolution might refer to an alteration of bye-laws, so that at present it is a mere pious opinion.

Mr. SHARE-JONES : I would like to remind the Council—I do not want to waste the Council's time more than anybody else does—that that was precisely the question I put when I stood on my feet at first, as to whether I should be entitled to move that now or after the report had been adopted. With the promise that I shall move this after the report has been adopted, I am prepared to vote for the report as it stands.

The motion for the adoption of the report was then put and carried. Mr. Mulvey voting against.

Mr. SHARE-JONES : Now I move this resolution : "That on and after December 31st, 1915, the standard demanded in the subjects of the preliminary certificate presented shall be that now required by the General Medical Council."

Sir JOHN M'FADYEAN : I rise to a point of order. I desire, sir, that you should take the opinion of the Solicitor whether this is in order. This is a proposal that we should alter the Bye-laws, and I hold that to be improper unless due notice has been given to the Council. (Hear, hear.)

Mr. SHARE-JONES : With all due respect to you, Sir John, I had the promise of the Chair that I could move this. You all heard it read. I was asked to read it, and it was read. The substance of the resolution was known to every member of the Council, and I asked for the promise of the Chair that I should be allowed to move it before I voted for the report.

Mr. SUMNER : That is so.

Mr. SHARE-JONES : I got the promise of the President before I voted on the report. If you are going back on an honourable understanding with the Chair, then I must ask you to go back upon your vote.

Mr. GARNETT: It is well known to all members of this Council that there can be no alteration of Bye-laws unless notice has been properly given and suspended. If we were to pass Mr. Share-Jones's resolution it would have no effect whatever, it would all have to come up again. He must, if it involves the alteration of Bye-laws, give notice, and suspend the notice for at least three months.

The PRESIDENT: That is so.

Mr. SHARE-JONES: May I ask if the necessary notice has been given of these alterations which were made yesterday, and which have been voted upon to-day?

Sir JOHN M'FADYEAN: No.

Prof. METTAM: Notice of the alterations will have to be suspended, and they will have to come up for discussion again.

Mr. BARRETT: On a point of order, sir, Mr. Garnett is no doubt perfectly right, that if an opinion were expressed now which is contrary to the present Bye-laws it would have no effect, but surely Mr. Share-Jones, after the understanding he had with you, sir, and with honourable members, is entitled to say "I desire the opinion of the Council upon this point, whatever it may be worth."

Sir JOHN M'FADYEAN: I submit that is not what Mr. Share-Jones has done. Mr. Barrett has no right to alter the words which Mr. Share-Jones has used. He has moved an alteration of the Bye-laws. Really I appeal to the Council not to waste time. None of us wish to burke discussion on this point, but I submit to Mr. Share-Jones that, inasmuch as the recommendations in the report of this Committee are absolutely ineffectual until formal notice has been given and they have been passed by the Council, he will sacrifice nothing by waiting till next July to move what it is now his intention to move.

Mr. SHARE-JONES: I give notice now that I will move this alteration. (Hear, hear, and a voice "That is right.")

Sir JOHN M'FADYEAN: That is No. 10 on the agenda.

Mr. SHARE-JONES: It is pure twisting. I surely had the permission of the Chair.

Mr. BARRETT: I do not agree with Sir John at all. I think Mr. Share-Jones, especially after what was said to him, is perfectly right, irrespective of the nature of the resolution, to take the present opinion of this Council upon this specific point, if he desires to do so. It has no relation to giving notice of motion at all. He is entitled to take the opinion of the Council upon this particular point for what it is worth. (Cries of "Next business.")

Mr. SUMNER: Mr. Share-Jones had a promise which has not been fulfilled.

The PRESIDENT: I gave Mr. Share-Jones consent to express his opinion before this Council, and he has done so.

Mr. SHARE-JONES: You did not. (Hear, hear, and cries of "Chair, Chair.") I desire to do it now, and Sir John got up, and I was ruled out of order.

The PRESIDENT: You can give notice of motion.

Mr. SHARE-JONES: I wish to give notice of motion.

The PRESIDENT: That comes under No. 10 on the agenda.

Sir STEWART STOCKMAN: If that was all Mr. Share-Jones wished to be allowed to say, I have heard it myself three times. I am quite satisfied I know what your motion is.

Mr. SHARE-JONES: But I have something to say on it, and that something has rather an important bearing on the attitude which some men take from one quarter and another towards matters which are vital to this Council and to the profession. That something can be equally as well said three months hence as to-day, and it will be said then. (Hear, hear.) You accept that notice of motion, sir?

The PRESIDENT: No. That will come on under No. 10.

Mr. SHARE-JONES: I may not be here then.

The PRESIDENT: You can get somebody else to give notice in your absence.

EXAMINATION COMMITTEE.

Mr. MULVEY read the following report of a meeting of the Examination Committee held on Thursday, April 2nd.

Educational Certificates. (a) Educational certificates numbered 1419 to 1434 inclusive were submitted and approved.

(b) An educational certificate submitted from Mr. R. F. J. Hayward was considered. This did not comply with the Bye-laws, and was not accepted.

Exemption. An application was received from Mr. D. H. Cox, B.A., for exemption from the first year's course of study, under Bye-law 62 (a), in virtue of his holding the Diploma of Bachelor of Arts of the University of Cambridge, in the subjects of Chemistry, Botany, and Physiology.

It was resolved that the application be granted.

Exempted Students: Special examination in Anatomy It was resolved:

(a) That candidates examined under the provisions of Bye-law 62 (a) shall, in addition to the usual examination in Anatomy, be examined orally for fifteen minutes in the subject of Anatomy; Bones, Ligaments, and Joints.

(b) That the fee for the special examination in Class B be fixed at £8, and in case of rejection in Class B the re-examination fee be fixed at £4 4s.

(c) That for each candidate examined under these regulations the Examiners in Anatomy, Class B, shall receive a fee of 10.6.

(d) That the alterations to bye-laws necessitated by these resolutions be suspended at once for approval by the Council in due course.

Williams Memorial Prize. A letter was received from the winner of the Williams Memorial Prize, 1913, with regard to the nature of the prize, and it was resolved—"That in future the Williams Memorial Prize be awarded in money."

On the motion of Mr. Mulvey, seconded by Mr. Mason, the report was received and adopted.

REGISTRATION COMMITTEE.

The SECRETARY read the report of a meeting of the Registration Committee held on Thursday, April 2nd, from which it appeared that 16 cases were considered by the Committee.

In the case of G. R. Leighton, the Solicitor reported the correspondence he had had with the Local Government Board for Scotland, and it was resolved that the matter be left to the President to arrange for the question to be raised in Parliament at an opportune moment.

A member appeared before the Committee, accompanied by his solicitor, to answer a charge of employing an unqualified assistant in such a way as to contravene Bye-law 54.

The offence was that on June 6th, 1913, this member had permitted his unqualified assistant to examine a horse under the Importation of Horses, Asses, and Mules (Ireland) Order, 1907, and to sign the certificate in the name of the member.

In answer to the charge the member's solicitor admitted the offence, but urged that it was committed in ignorance, and without intent to commit a breach of the Bye-laws.

It was resolved that this Committee find that the acknowledged relationship between this member and his unqualified assistant amounts to covering, which is conduct disgraceful in a professional respect, that he be

severely censured, but that the final report of the Committee to the Council be deferred for six months.

The member on being readmitted was informed of the decision of the Committee, and gave an undertaking that the offence should not occur again.

Five cases were ordered to be struck out in the absence of proper evidence, and the Solicitor or Secretary were instructed with regard to the proceedings to be taken in the other cases.

Correspondence. (a) A pamphlet of testimonials by veterinary surgeons in favour of Petroleum Jelly was submitted, and the Secretary was instructed to communicate with the members in question, calling their attention to Bye-law 55 and requesting an explanation.

(b) A letter was received from Mr. H. O. Oliver, of Sydney, Australia, who passed his Final Examination in 1898, but who had not signed the Register of Members.

The Secretary reported that he had informed Mr. Oliver that he must comply with Bye-law 93 before his name could be entered in the Register of Veterinary Surgeons. The matter was left in the hands of the Secretary to report, if necessary, to the next meeting of the Committee.

Other correspondence was submitted, and the Secretary was instructed as to the replies to be sent.

Application for Restoration. The application received from Mr. George Campbell Hill, whose name was removed from the Register in 1908 under Section 6 of the Veterinary Surgeons Act, considered at the previous meeting of Committee, was again submitted. Further testimonials were received from members of the College practising in Glasgow.

It was resolved to recommend—That the name of Mr. George Campbell Hill be restored to the Register of Veterinary Surgeons.

Professional Etiquette. It was resolved—That the Bye-laws with regard to professional etiquette be referred to the Bye-laws Sub-Committee for revision and report.

On the motion of the President, seconded by Mr. Trigger, the report was adopted.

PARLIAMENTARY AND GENERAL PURPOSES COMMITTEE.

Mr. GARNETT read the following report of a meeting of the Parliamentary and General Purposes Committee held on Thursday, April 2nd.

Parliamentary Bills. The following Parliamentary Bills were submitted:—Dogs; Higher Animals Protection; Docking of Horses; Animals (Anæsthetics); Exportation of Horses.

(a) With regard to the Dogs, Higher Animals Protection, and Animals (Anæsthetics) Bills, it was reported that these Bills would be blocked.

(b) It was resolved that no action be taken with regard to the Docking of Horses Bill.

(c) *Exportation of Horses.* It was resolved that in the event of this Bill going to Grand Committee, the Chairman be requested to obtain permission to attend to give evidence on behalf of the College.

Supplementary Charter. The Solicitor reported that the petition for the Supplementary Charter had been presented, and that no protest against it had been received. The matter would now take its usual course.

International Veterinary Congress. The question of the action to be taken by the College in connection with the forthcoming International Veterinary Congress was considered, and referred to the Finance Committee.

Cleaning of Building. This question was ordered to stand over.

On the motion of Mr. Garnett, seconded by Mr. Mason, the report was received and adopted.

ANNUAL FEE COMMITTEE.

Sir JOHN M'FADYEAN read the following report of a meeting of the Annual Fee Committee held on Thursday, April 2nd.

Veterinary Surgeons Act Amendment Bill. The Solicitor reported that the Veterinary Surgeons Act Amendment Bill had been presented in the House of Commons on the 18th February, but that no further progress had been made.

It was resolved to recommend—That, in view of the impossibility of further progress being made this session, no further expense be incurred in connection with the Bill during the present session of Parliament.

On the motion of Sir John M'Fadyean, seconded by Mr. Abson, the report was adopted.

HONORARY ASSOCIATES COMMITTEE.

Prof. METTAM read the following report of a meeting of the Honorary Associates Committee held on Thursday, April 2nd.

Nominations. Nominations were submitted and considered.

It was resolved—That the consideration of the matter be deferred *sine die*.

Prof. METTAM: I move the reception and adoption of the report.

Mr. PACKMAN: I second that.

Mr. BARRETT: At the last meeting of Council Prof. Hobday desired that a certain name should be added to the list that was presented, and I think Prof. Mettam said the Committee would consider the question. Has that been done, and has anything been decided?

Prof. METTAM: Yes, it was considered yesterday.

Mr. BARRETT: May I ask with what result.

Prof. METTAM: Yes; it is in the last line of the report: "That the consideration of the matter be deferred *sine die*."

Mr. BARRETT: Thank you very much.

The motion for the adoption of the report was then put and carried unanimously.

LIBRARY AND MUSEUM COMMITTEE.

Dr. BRADLEY read the following report of a meeting of the Library and Museum Committee held on Friday, April 3rd:

Presentations. The Secretary reported that since the date of the previous quarterly meeting of Council the following presentations had been made to the Library, and it was resolved, that a vote of thanks be conveyed to the respective donors:—

The Calendar of the Pharmaceutical Society of Great Britain, 1914; The Registers of Pharmaceutical Chemists, and Chemists and Druggists, 1914; Calendar of the Pharmaceutical Society of Ireland, 1914; Calendar of the University of Liverpool, 1914; Memoirs of the Department of Agriculture in India, Vol. 1, No. 4; Annual Report by the Chief Veterinary Officer of the Board of Agriculture and Fisheries for the year 1912; Municipal Council of Johannesburg: Report of Director of Abattoir and Live Stock Market, 1912-1913; Annual Report of the Bengal Veterinary College and of the Civil Veterinary Department, Bengal, 1912-1913; A Note on the M'Fadyean Staining Reaction for Anthrax Bacilli, by Major J. D. E. Holmes (Bulletin No. 36); The Diagnosis of Dourine by Complement Fixation, by John R. Mohler; Annalidella Stazione Sperimentale per le malattie infettive del bestiame, Vol. 1, 1911-1913; The Rhodesian Agricultural Journal, December 1913, February, 1914; Revue de Pathologie Comparée, December 1913, January and February 1914; The Journal of the Board of Agriculture, January (with supplement), February and March 1914; Orders of the

Board of Agriculture and Fisheries; Leaflets of the Board of Agriculture and Fisheries; *The Veterinary Journal*, *The Veterinary News*, and *The Veterinary Record* for the quarter; *The World's Carriers* for the quarter; Annual Report of Proceedings under the Diseases of Animals Acts, The Market and Fairs (Weighing of Cattle) Acts, etc., for the year 1913; *The Bloodstock Breeders' Review*, April 1914.

Purchases. The Secretary reported that the following books had been purchased for the Library:—

Tropical Diseases Bulletin, Vol. 3, Nos. 1, 2, 3, 4, 5, and 6; Tropical Veterinary Bulletin, Vol. 2, No. 1; Report of the Departmental Committee appointed by the Board of Agriculture and Fisheries to inquire into Epizootic Abortion, Parts, 1, 2, and 3; appendix to Part 3.

Completion of Sets. The Secretary called attention to the fact that several sets of foreign periodicals were incomplete, and suggested that he should be allowed to insert a notice in the British veterinary journals asking for gifts of volumes to complete the series in the Library.

It was resolved that the matter be left in the hands of the Secretary.

On the motion of Dr. Bradley, seconded by Prof. Mettam, the report was received and adopted.

ELECTION OF EXAMINERS.

On the motion of the President, seconded by Mr. Clarkson, the Council went into Committee in order that the applications and testimonials received in connection with the election of examiners might be read.

On the Council resuming its sittings in public, a ballot was taken for the election of an Examiner in Class D. Veterinary Surgery and Obstetrics, the following gentlemen having made applications for the appointment:—Messrs. John Brown, F.R.C.V.S., F.T.G. Hobday, F.R.C.V.S., F.R.S.E., John Penberthy, F.R.C.V.S., (nominated by Mr. Mulvey); Graham Rees-Mogg, F.R.C.V.S., (nominated by Major-General Pringle).

The ballot resulted as follows: Hobday 9, Penberthy 7, Rees-Mogg 6, Brown 1.

The PRESIDENT: As it is necessary to have an absolute majority of those voting, we must have another ballot among Mr. Hobday, Prof. Penberthy, and Mr. Rees-Mogg.

Mr. CLARKSON: I should like a ruling on that point, sir, as to whether we take a ballot between the top two or the top three.

Sir JOHN M'FADYEAN: The second ballot will be between Mr. Hobday and Prof. Penberthy, will it not?

Mr. SUMNER: The Solicitor says that we must vote on the three.

Mr. GARNETT: You rule on the three, do you?

Mr. THATCHER: Yes, I think so. There is no absolute majority.

The PRESIDENT: Gentlemen, you must now vote on the three names: Hobday, Penberthy, and Rees-Mogg.

Mr. THATCHER: I really think this is absurd. There is only one vote that can be given to the other candidates this time—the vote that was given to Mr. Brown before. With great respect, I say it is ridiculous. I think we ought only to vote for two this time. If we vote for three we shall all vote again as we did last time, and there is only one vote, that given to Mr. Brown, that can be given to the other candidates.

Mr. SUMNER: They may not vote the same this time.

Mr. THATCHER: We must have an absolute majority.

Mr. SUMNER: What is an absolute majority?

The PRESIDENT: The Solicitor says we must ballot again among the first three.

A second ballot was then taken, and resulted as follows:—Penberthy 9, Hobday 8, Rees-Mogg 6.

The PRESIDENT: We must have another ballot, as Prof. Penberthy has not an absolute majority.

Mr. THATCHER: Had you not better move a resolution that the candidate who receives the largest number of votes is elected?

Mr. ABSON: Not this time, next time.

A third ballot was then taken between Prof. Penberthy and Mr. Hobday, and resulted as follows: Hobday 13, Penberthy 10.

The PRESIDENT: I declare Mr. Hobday elected the Examiner in Class D., Veterinary Surgery and Obstetrics.

ELECTION OF EXAMINER IN VETERINARY HYGIENE AND SANITARY SCIENCE FOR THE FELLOWSHIP DEGREE.

The Council then proceeded to the election of an Examiner in Veterinary Hygiene and Sanitary Science for the Fellowship Degree, for which the following gentlemen had made applications: Messrs. A. C. Duncan, F.R.C.V.S., J. S. Lloyd, F.R.C.V.S., D.V.S.M., W. Woods, F.R.C.V.S., (nominated by Mr. W. J. Mulvey).

The PRESIDENT: Will somebody move now that the candidate who receives the highest number of votes be elected?

Mr. PRICE: I move that.

Sir JOHN FADYEAN: You cannot do it.

The PRESIDENT: I consulted the Solicitor before saying that.

Mr. THATCHER: I think it can be done by resolution.

Prof. METTAM: Then it should have been done before the first ballot was taken in the first case.

Prof. BRADLEY: I move as an amendment that we vote as we did before.

The PRESIDENT: Very well, I only suggested it with the object of saving time.

A ballot was then taken, and resulted as follows:—Woods 20, Lloyd 1, Duncan 1.

The PRESIDENT: I declare Mr. Woods elected Examiner in Veterinary Hygiene and Sanitary Science for the Fellowship Degree.

REPORT ON FELLOWSHIP EXAMINATION.

The SECRETARY: I have to report that since the previous quarterly meeting of Council the following gentlemen have been admitted Fellows by examination: Messrs. Richard Finch, S. J. Motton, W. T. Brookes, G. B. C. Rees-Mogg (Capt.), Charles Hartley, Jun.

APPOINTMENT OF SCRUTINEERS.

Mr. MASON: I move that the same gentlemen as last year be asked if they will kindly attend this year, and that the President be empowered to fill any vacancies.

Mr. PRICE: I second that.

Mr. BARRETT: Was there any difficulty in getting scrutineers last year?

The SECRETARY: No, sir.

The resolution was put and carried unanimously.

ANNUAL DINNER.

The PRESIDENT: The next question is to decide as to whether we are to hold an annual dinner.

Mr. TRIGGER? I move that no action be taken.

Maj.-General THOMSON: I second that.

The resolution was put and carried unanimously.

NOTICES OF MOTION.

Mr. BARRETT: I have been asked by Mr. Share-Jones to give notice of the following motion. I do not say I agree with it. I simply give notice on his behalf:—“That on and after December 31st, 1915, the standard demanded in the subjects of the Preliminary Certificate presented shall be that now required by the General Medical Council.”

Mr. GARNETT: May I ask which bye-law that amends?

Mr. BARRETT: I do not know. I have not looked up the subject.

Sir JOHN M'FADYEAN: I beg to give notice of my intention to move certain alterations in connection with the first schedule. The alterations are perhaps too long for me to read out to the Council, but they are those made in the report of the Preliminary Examination Committee which was adopted at an earlier part of these proceedings. Of course the notice of the alterations will be suspended on the board.

Mr. MULVEY: I beg to give notice of the following alterations: "Bye-law 67: An examination fee of £5 shall be paid for each examination. In the case of candidates claiming exemption from the examination in Class A under Bye-law 62 (a) a fee of £8 shall be paid by each such candidate on presenting himself for the first time for the Class B examination.

Bye-law 68: Should a student fail in any examination he shall pay a further fee of £3 3s. for each re-examination. In the case of candidates examined in Class B under the provisions of Bye-law 62 (a) a sum of £4 4s. shall be paid for each re-examination in Class B.

Bye-law 94: Every successful candidate in the final examination shall be required to pay a fee of £1 for registration as a member of the College, and to subscribe his name to the rules and bye-laws of the College for the time being."

On the motion of Mr. Abson, seconded by Mr. Clarkson, a hearty vote of thanks was accorded to the President for his conduct in the chair, and the meeting terminated.

Personal.

On the recommendation of the Public Health Committee of the London County Council it has been resolved that Mr. D. H. WOOD, M.R.C.V.S., be appointed a permanent veterinary inspector under the Dairies, Cowsheds, and Milkshops Order of 1899, and the L.C.C. (General Powers) Acts, 1904 and 1907, and the Tuberculosis Order of 1913. The salary to be £350 per annum, rising by annual increments of £25 to a maximum salary of £400 per annum.

Mr. J. C. COLEMAN, M.R.C.V.S., has been appointed veterinary inspector to the Swindon Town Council under the Diseases of Animals Acts for the 12 months commencing April 1, 1914.

Mr. A. D. MINOR, M.R.C.V.S., Chief Veterinary Inspector, has been granted an increase of salary from £350 to £400 per annum by the Manchester City Council.

Hunting Memorial Fund.

Subscriptions received up to 7 p.m., April 7th, 1914.

	£	s.	d.
Amount previously acknowledged	283	13	0
Messrs. Harrison, Barber & Co. Ltd., Garratt Lane, Wandsworth, s.w.	2	2	0
Mr. Arnold Spicer (F), New Oxted	1	1	0
A. Grist, Dept. of Agric., Bloemfontein	10	6	
W. P. Hamlyn, Komgha, South Africa	10	0	
Dr. G. D. Lander, R.V.C., Camden Town	1	1	0
Mr. E. Cummings Cherry, Australian Commonwealth, 72 Victoria Street, s.w.	1	1	0
Mr. Geo. Henry Gibbings (F), Tavistock.	1	1	0
	£290	19	6

HENRY GRAY, Hon. Sec. & Treas.

23 Upper Phillimore Place, London, W.

Cheques endorsed "Hunting Memorial Fund" and crossed "The London, City and Midland Bank, Ltd."

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, April 3.

REGULAR FORCES. ARMY VETERINARY CORPS.

Maj. A. V. Todd, A.V.C., to be Assistant Director-General at the War Office, *vice* Maj. H. T. Sawyer. Dated April 1.

SPECIAL RESERVE OF OFFICERS.

ARMY VETERINARY CORPS.

Cadet E. Sewell, from Royal (Dick) Veterinary Coll. O.T.C., to be Lieut. (on probation). Dated April 4.

A TREATMENT FOR CHOKING.

Sir,

The enclosed cutting of evidence produced in court of a novel treatment for choking, used by a farmer on the Fraser River, may be of interest to your readers. It is certainly the most ludicrous I ever heard of.—Yours truly,

T. R. R. HOGGAN, M.R.C.V.S.

Vancouver, B.C. March 16.

"On one occasion a cow on Mr. La Fond's farm was choking over a potato. Mr. La Fond placed an axe on one side of the animal's throat and forced the potato up against the skin of the opposite side. Seizing a hammer Mr. La Fond then pounded the potato up into bits, but the cow still choking, Mr. La Fond then seized an old rusty crowbar and rammed it down the animal's throat as far as it would go, releasing the mashed potato."

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.		Out-breaks	Slaughtered. *
	(a)		(a)		(b)		(b)		(b)	(a)	
GR. BRITAIN.											
Week ended April 4	22	23			3	3	36	50	4	74	853
Corresponding week in											
1913 ...	11	11			3	29	63	122	3	38	541
1912 ...	17	31			6	11	74	126		69	576
1911 ...	21	30			1	1			5	62	568
Total for 14 weeks, 1914	265	284	11	74	28	72	393	1849	138	855	8131
Corresponding period in											
1913 ...	185	202			49	165	1079	2270	108	505	6360
1912 ...	343	388			52	114	1600	3687	144	859	10384
1911 ...	282	331	1	18	53	185			285	575	6299

(a) Confirmed. (b) Reported by Local Authorities.
Board of Agriculture and Fisheries, April 7, 1914.

† Counties affected, animals attacked: London 1, Notts 1, York, West Riding 1.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1345.

APRIL 18, 1914.

VOL. XXVI.

PROFESSIONAL CONDUCT—OUR BYE-LAWS.

A minor but not unimportant decision reached at the last Council meeting was the resolution—"That the bye-laws with regard to professional etiquette be referred to the Bye-laws Sub-Committee for revision and report."

Presumably the mild word "etiquette" may be taken as embracing the whole subject of professional conduct, including grave forms of misconduct. Our present bye-laws upon professional conduct certainly need revision; and so, too, do those upon the somewhat allied subject of registration.

Probably there are members who would like the bye-laws to give more definite information than they now do as to what constitutes professional misconduct.

At present only two offences—advertising and covering—are directly specified as professional misconduct. Others might well be added; but we need not expect the revised bye-laws to enumerate a long list of professional offences.

It is obviously impossible to indicate all possible actions that would come under the term of "conduct disgraceful in a professional respect," and this explains why so little has been done in defining misconduct. Still, hypothetical offences which might occur at some time are not quite on a par with other offences which we know do occur with more or less frequency. We know, for instance, that a few veterinary surgeons "solicit." "Soliciting" is universally recognised as unprofessional conduct, and men have been struck off the Register for indulging in it. That, and a few other actions of similar frequency and gravity, might advantageously be declared unprofessional by bye-law.

We hope that the bye-law allowing a defendant before the Registration Committee to claim an open trial if he chooses, will be retained unaltered. In its present form it may sometimes do good, and cannot do harm. But something ought surely to be done with that peculiar bye-law which directs that whenever a member is struck off the Register after entering a defence, the R.C.V.S. shall publish a full report of both charge and defence in the professional journals not more than three or less than two months later. The bye-law is "peculiar" for this reason. Its terms are peremptory, not permissive—the word used is "shall," not "may"—but though it was passed many years ago, we are not aware that it has even once been obeyed. Much may be said against this bye-law—against the washing of dirty linen and gibbeting of ruined men that its observance entails. It might be abolished altogether, or given a more optional wording—for we can imagine cases in which publication might be desirable, but to retain it unaltered as a dead letter is indefensible.

SUNSTROKE IN A THOROUGHbred AMERICAN GELDING.

Brown gelding Balbek, 9 years old, property of the Georgetown Livery Stables. Been in the tropics for the last five years, racing, and owing to a badly bowed tendon he was broken to harness.

On Monday, 9th March, 1914, I was called at 11 a.m. to come and see Balbek at once, as he was very sick. I at once went to the stables, and found him down on his side and blowing: temperature 109.

Tried to get him on his feet, but of no avail. The ice depot is only a stone's throw from the stables, so I got ice and kept it on his head and spine, and set him up on his chest, and kept fanning him. Gave the following dgt. :—

Tinct. digitalis	3j.
Liq. Ammonia acetatus	3ij.
Spts. Aeth. Nit.	3j.
Aqua	Oj.

In half-an-hour the temperature had gone down to 108½. With the aid of a sling and several able-bodied men, I got him raised from the ground, and sent on eight men to rub down his legs and body. After a few minutes' rubbing he was able to stand with the aid of the sling and the men steadying him. By the evening the temperature had gone down to 105. Saw him next morning at 5 a.m., temperature 103, and had him led out and grazed for a few minutes. Was put into a comfortable loose box, and in a few days was all right again.

Though I have been in the tropics now for eleven years this is only the second case of sunstroke I have seen; and it is the highest temperature I have ever recorded. I hope this will interest some of your readers.

A. SETON MILNE,

Municipal Vet. Surg.

Georgetown, Demerara,

Act. Govt. Vet. Surg.

British Guiana.

SENSITIZED OR SERO-VACCINES.

The principle of immunity against pathogenic bacteria is a very complicated subject, and so far as our present knowledge goes is but imperfectly understood. We do know, however, of the phagocytic action of the various body cells and of the so-called "immune bodies"—opsonins, agglutinins, bactericidins—as being prominent factors in the immune role. We know of no agent, or agents, capable of stimulating into activity the former—and I would include in this assertion the much over-lauded preparation, nuclein—but we can by

artificial means exercise very great influence over the latter by raising the content of the body fluids in "immune bodies" either by injecting sera known to be rich in anti-bodies—sero-therapy—or by stimulating the healthy tissues themselves to elaborate immune bodies by the injection of devitalised bacterial emulsion—vaccine therapy.

Sero-therapy, when first introduced, certainly presented great prospects and considerable future utility was anticipated by its devotees. As time went on, however, many difficulties had to be overcome, some of which, unfortunately, were unsurmountable, while, in addition, in several instances the limitations were so pronounced as to render the treatment of little or no practical value. Among the several drawbacks the following may be mentioned:

1. Antisera, as a rule, are rich in antitoxin, but contain few, if any, opsonins, bacteriylins, etc., consequently the most we could expect after injection is the neutralisation of the free toxin circulating in the body fluids *pro. tem.*, while the bacteria at the foci of infection were left undisturbed to elaborate more toxins. Moreover, antitoxin is rapidly passed out of the body, and this partly accounts for the comparatively short period of immunity enjoyed after injecting an antiserum.

2. Sera procured from one animal and injected into another of a different species is more likely to produce, under certain circumstances, hyper-sensitiveness (anaphylaxis) than serum derived from the same species, which is not always obtainable.

3. Difficulty in obtaining sera with a high content, and the depreciation of these with keeping.

4. There are so many types of bacteria even of the same flora, and the immune bodies of the one type may be quite useless when required to wage war against the bacteria of another it must follow, therefore, for a serum to be of any practical use at

all it should be very highly polyvalent, and as many of the sera used to-day are, I fear, more *commercial* than *therapeutical* adjuvants, they should have a stamped guarantee placed on them so that the practitioner and his patient could be guarded by using a standardised serum.

Vaccine-therapy. The limitations and failures of sero-therapy cleared the way for the advent of vaccine-therapy, which, as we now all know, is more than a problematical question, having already taken a high position in curative and prophylactic medicine, with an assurance of a still more prominent position in the future when better understood.

Within recent years Ehrlich showed that when a specific anti-body is brought into contact with its corresponding protoplasmic element the latter becomes fixed to the former. If, therefore, a vitalised streptococcal emulsion for example is mixed with an anti-streptococcal serum the bacteria of the emulsion and the anti-bodies of the serum become bound together, and the combination thus produced is known as a *sensitized* or *sero-vaccine*.

A *sensitized vaccine* consists therefore of a specific bacterium firmly bound to its corresponding anti-body.

To produce such a vaccine one must have an anti-serum possessing not only the suitable anti-bodies but also in sufficient evidence. It therefore follows, for reasons already stated, all anti-sera should be standardised, and if this is true in *serum* therapy it is even more so in *sero-vaccine* therapy.

It is obvious the bacterial emulsion must be pure for, if alien pathogenic bacteria are present they will be left free in the sera, and if injected into the animal may lead to local or general infection, nothing but pure cultures should therefore be used.

The emulsion having been standardized it is mixed with the serum and left in contact from 12

	(1) Serum.	(2) Vaccine.	(3) Sero-vaccine.
Nature of immunity	Passive antitoxic	Active antibacterial	Active antitoxic and antibacterial.
Degree	Limited, Proportionate to dosage	Dependent on dosage and intervals, but may rise very high	Said to be higher than (1) or (2).
Rapidity of production of immunity	Rapid. Immediate if intravenously given	Delayed	Rapid
Permanence of immunity	Slight (2 weeks at most)	Considerable	? Probably between (1) and (2).
Local reaction	Great, varying with dosage	Variable; dependent on dosage and vaccine; may be <i>nil</i> .	Inconsiderable or <i>nil</i> .
General reaction	May be considerable, chiefly dependent on nature of antitoxin	Variable, chiefly dependent on dosage	Almost <i>nil</i> .
Focal reaction	May be marked, as with diphtheria antitoxin, but often slight	Always present if dosage sufficient and efficient.	Probably as with (2).
Possible ill-effects	Serum sickness, rash, urticaria, anaphylaxis	Dependent almost entirely on dosage, with proper dosage <i>nil</i> , except in rare cases where urticaria or rash	<i>Nil</i> .
Applicability	Limited	Wide	Limited.

to 24 hours; centrifuged, and the resultant precipitate washed with saline solution to remove undesirable contained elements.

After the lapse of six to nine months the bacteria tend to desensitize, becoming then a source of danger.

Alcock, Besredka, Levy and others have injected into animals a lethal dose of virulent pathogenic bacteria, followed by the injection of the corresponding sensitized vaccine and these animals have either lived longer than the control animals or survived altogether.

Sensitized vaccines from what has been stated would appear to be indicated (a) in specific infections which tend to become generalised, causing dissolution by toxæmia (b) in epidemics of influenza, strangles, and pneumonia, (c) In old standing cases where vaccine therapy has failed to clear the focal area even after the exhibition of large doses, in short in those cases where the system has developed a pronounced toleration to vaccines.

In these latter class of cases sensitized vaccines in the limited number of cases I have used them, have given me favourable results. These I hope to record at a later date. I append an interesting comparative table of serum, vaccine, and sero-vaccine drawn up by Dr. Allen.

WM. SCOTT, F.R.C.V.S., F.R.M.S.

Bridgwater.

ABSTRACTS FROM FOREIGN JOURNALS.

A CASE OF TETANUS.

Eisenmenger records (*Bulletin de la Soc. Centrale de Méd. Vét.*), the case of a horse which received a blow with a whip handle upon the right eye. This caused a small wound, which was not treated. Eight days later the animal showed a certain depression and an impairment of masticatory movements, resembling "sleepy staggers." The next day the right eye seemed to be rigid and immovable, the pupil was somewhat contracted and did not react to light. The eyelid hung loosely downwards. The skin of the head retained its sensitiveness. The tongue was hanging out of the right side of the mouth. The gait of the horse was normal, and the tail was not held stiffly.

On the following day the left eye had also become immovable, its eyelid was relaxed, the horse had difficulty in mastication, and a pronounced tetanus developed.

Treatment consisted in injections of antitetanin, clysters of ether and chloral hydrate, and the administration of strongly alkaline fluids by the mouth. After two days an improvement appeared, and the eyes became movable again. A speedy recovery followed.

The author remarks that the chief interest of this case is the rarity of the eyes and muscles of the eyelids being involved in tetanus.

The case confirms the results of Brunner's investigations in 1894. Brunner found that the

muscular concentrations always begin on that side of the body upon which the inoculation of the virus has taken place, and that the degree of severity of the symptoms depends upon the virulence of the poison, which in strong doses causes paralysis. This explains the paralysis of the eyelids in the present case.—(*Berliner Tier. Woch.*)

THROMBOSIS OF THE ANTERIOR AORTA IN A HORSE.

The following unusual case is recorded in the official veterinary report of the Bavarian Army for the year 1912. The subject was an eight-year-old mare, serving in a heavy cavalry regiment. In December, 1911, this animal showed slight disturbances of the movements of both fore limbs. These gradually increased, so that the mare found it difficult to rise from the ground. On January 1, 1912, she fell, and showed great pain, violent sweating, and great weakness. Early the next day her condition was the same; but in the afternoon complete paralysis of the fore part of the body appeared. The mare rose up upon her hind limbs and pushed the body forwards, so that the fore feet came to lie between the hind limbs. An affection of the central nervous system or a thrombosis of the vessels supplying the fore limbs was diagnosed, and the mare slaughtered.

The post-mortem examination revealed thrombosis of the anterior aorta and its branches.—(*Münchener Tier. Woch.*)

DIFFUSE SUBACUTE MENINGO-ENCEPHALITIS IN A DOG.

Roquet and Sellier record (*Journal de Méd. Vét. et de Zootechnie*) the case of a dog, which had distemper about the age of nine or ten months. Later, at the age of a year and a half, the animal showed a vesiculo-pustular cutaneous eruption and symptoms of gastro-enteritis.

From this time forth the dog gradually lost condition, and showed paresis of the posterior part of the body. This was accompanied by inco-ordination of movement, causing an unsteady staggering gait, with giving way of the limbs. Paraplegia then appeared, coincidentally with a certain rocking movement of the head.

Soon afterwards dysphagia appeared. The dog was no longer able to swallow, for the movements of the tongue and lips were abolished. For four days he remained completely voiceless from the labio-glosso laryngeal paralysis. A slight improvement then set in, in consequence of subcutaneous injections of strychnine sulphate, physiological serum, and camphorated oil. The paraplegia was also treated by electricity, and by point-firing upon the loins.

The medullary paralysis afterwards spread to the anterior part of the body, and the fore limbs began to give way. Motor disturbances then appeared in the right eye. The eye was withdrawn to the base of the orbit and showed internal strabismus, and at the same time spasmodic contractions of the eyelids and grinding of the teeth appeared. Towards the end of the illness the mind

became greatly impaired, and the dog finally died in a state of coma.

Post-mortem, a slight intra-meningeal serous exudation was found. The arachnoid and pia mater were slightly iridescent, and showed a very clear vascular arborisation. They only adhered very slightly to the cerebral cortex. The lower part of the brain showed a marked fluctuation to palpation, and, upon section, it was found to be only two or three millimetres thick, in consequence of dilatation of the lateral ventricles by a serous accumulation. Sections of the cerebral parenchyma showed congestion of the finest capillaries, which appeared like bright red specks.

The cerebellum and its pia mater were very congested. The white and grey substance of the cerebellum, like that of the cerebrum, was beset with small dark-red punctiform spots. The spinal cord showed the same lesions.

A histological study of the lesions demonstrated the existence of a diffuse subacute meningo-encephalitis.—(*Annales de Méd. Vét.*)

W. R. C.

LIVERPOOL UNIVERSITY VETERINARY MEDICAL SOCIETY.

[NATIONAL V.M.A.—NORTHERN BRANCH].

A meeting was held on Friday, March 20th. There were present:—Messrs. J. P. Heyes, President; A. B. Mattinson, E. J. Burndred, J. B. Wolstenholme, H. Holroyd, J. Maguire, J. R. Barker, T. S. Atkinson, G. H. Locke, Hy. Sumner, W. Woods, F. S. Warburton, and J. Share-Jones.

Visitors: Messrs. R. Finch, W. J. Young, J. D. Whitehead, J. W. Proctor, and K. Jones.

On the motion of Mr. Wolstenholme, seconded by Mr. Mattinson, the minutes of the previous meeting having already been printed and circulated were passed as read.

The SECRETARY intimated that letters of apology for absence had been received from Messrs. W. A. Taylor, of Manchester; W. J. Fletcher, of Wrexham; and J. Storrar, of Chester.

The PRESIDENT: Is there any member desirous of making any observation on the coming election of Council R.C.V.S.

The SECRETARY: I don't know whether the members present know how we stand in regard to this matter. At our last committee meeting we decided that Mr. Henry Sumner be the representative of this Society, although I think if we ask him Mr. Sumner will explain how we came to that decision.

The PRESIDENT: Our committee agreed, as the Secretary has pointed out, to support Mr. Sumner's candidature, and we want this Society to approve of their action, or if they have any reason for not supporting the committee this is the meeting at which we ought to confirm or rescind the decision of the committee. We have nominated Mr. Sumner for a seat in the Council, and we ought to do our best to secure his return to that body.

Mr. LOCKE proposed, and Mr. Wolstenholme seconded, that the committee's action in nominating Mr. Henry Sumner be confirmed. The resolution was carried unanimously.

Mr. H. SUMNER: I appreciate again very highly the honour you have done me in accepting me as your candidate for election to the Council. It is not the first

time I have received the honour, and I might just make some little explanation as to the reasons which induced me to accept nomination for election. It may be within the knowledge of some of you that about February papers go out to foreign voters, and it is desirable in the best interests of those wishing to get elected that the names should be received before the issue of the papers to foreign voters. Consequently I presumed, on the good fellowship of my friend, Mr. Wolstenholme, who was the original nominator, and who was again good enough to offer my name as a candidate. I need hardly express the great satisfaction it has given me, and my readiness to do my utmost according to my ability, to advance in every way the welfare of our profession. (Applause.)

Another point is this. I think the Committee of this Society agreed to combine, as heretofore, with the Lancashire, Yorkshire, and Eastern Counties Societies in forwarding the candidature of a joint nominee.

The PRESIDENT: I think that is understood. It has not been mentioned at this meeting. We combined before, and I am glad you have called my attention to the fact. Though I did not mention it, we shall expect to work in conjunction with the Lancashire, Yorkshire, and Eastern Counties Societies.

TUBERCLE INFECTED MILK AND TUBERCULOSIS.

Address by Prof. BEATTIE.

Mr. Chairman and Gentlemen,—When your Chairman came to see me he said he wanted me to speak especially in relation to one subject, because a certain amount of discussion had taken place, and certain correspondence had appeared in the newspapers, and an address which was given in relation to the question as to whether tuberculous milk was really a serious menace. Curiously enough, I gave a paper on another subject last night, and this question was raised by a medical practitioner, and therefore I am all the more pleased to be able to give my opinion here.

Another question which was also in the correspondence was, "Are the disadvantages associated with sterilised milk, etc., etc." On that point there are statistics given by various people which are somewhat contradictory, but a prolonged investigation, which has been carried out upon this subject shows there are undoubted disadvantages in the use of ordinary sterilised milk. Yet these are comparatively unimportant. Sterilised milk has been used for years both in Germany and France, and diseases which are supposed to be associated with it, are not more prevalent in those countries than in this country, where it has not been used to the same extent.

For some time we have been dealing with this subject at the laboratory to find a special method, and I don't want to say very much, because my report on the subject was recently considered by the Health Committee of the city, and I am very glad they have agreed to my suggestion, and circulated it with the whole of the details of that method, and it will soon be published.

The only point is, it is supposed that in boiling milk, and in ordinary sterilised milk, certain elements of the milk are destroyed. In the method of electrical treatment, they are not destroyed. No unbiassed observer who has worked, at any rate in the out-patients department of a particular children's hospital, could for a moment dispute tuberculous mesenteric glands and milk supply.

Many of you have been able to explain cases in your experience. Personally, I know of two among my own personal friends where evidence was absolutely clear of tuberculosis developed through no other source than the

milk supply. It is true that everyone drinking tuberculous milk is not infected with tuberculosis, but it is equally true that everybody drinking typhoid infected water is not infected with typhoid. To me it is just as absurd to argue—because some people have drunk milk and not got tuberculosis, that tuberculous milk is quite safe, and even as some people now assert, a desirable article of diet.

Now I want to talk particularly to-day on the work which was published by Dr. Mitchell in *The British Medical Journal* of Jan. 17th this year, which is one of the best pieces of work done on the subject for years.

Dr. Mitchell examined 72 consecutive cases of tuberculous cervical glands in children, not cases that were picked out, but consecutive cases, as they came to the hospital, and he found that in 65 instances (90 per cent.) the bovine bacillus was present, and in 7 cases (10 per cent.) the human bacillus. He decided this by the inoculation of rabbits. It is most striking if you examine the age periods. Up to the age of three years children largely fed on milk, the statistics show that 25 out of 27 cases had showed bovine infection, and the other 2 human bacilli—one a baby of 5 months only—and had been breast-fed by a mother who had tuberculous disease. The other was 10 months, breast-fed for three months, and the father treated for pulmonary tuberculosis during the last ten years.

Practically at that period we have 100 with bovine tuberculosis and 2 infected with human. Of these two cases no history of tuberculosis in the family. Later ages, from 9 years to 12, the differences are not so marked. From 9 to 10 there are three infected with human bacilli, and seven infected with bovine bacilli. We need not consider these, for it was very obvious at that age there were many sources of infection.

"Now," he says, "as regards the bovine cases, it seems more than a coincidence that in not a single case was there a history of pulmonary tuberculosis. In 16 cases, however, one or more of the other children in the respective families were affected with various forms of surgical tuberculosis.

"It is worth while quoting one case of a child aged 5 months which had bovine bacilli. A brother aged 3 years had a tuberculous cervical abscess when the patient's glands were first noticed. I investigated the milk supplied, and found that a cow with advanced tuberculosis of the udder had been removed for destruction in September, 1910. I have not the slightest doubt that its milk was responsible for these two cases of tuberculous cervical adenitis.

"Then another case, which was a child aged two years, fed on unsterilised cows' milk. A brother, 18 months old, died from tuberculous meningitis in 1909. The patient's glands appeared in December, 1910. I found the milk was obtained from a byre situated just beyond the city boundary. I visited the byre, and the dairyman readily confessed that he had disposed in October, 1910, of a very tuberculous cow with the udder involved.

"Another case of a child, aged four years, fed on unsterilised cows' milk. A sister, aged two years, had her tonsils removed (one month after the patient's glands were excised) and there was no clinical evidence in her neck of cervical lymphatic tuberculosis; but from these tonsils Dr. Mitchell isolated bovine bacilli. The family consisted of two children who had been given plenty of unsterilised cows' milk.

"Another case of a child, aged 3½ years; a sister, aged 10 years, had her tonsils removed three months before the glands of the patient were excised. Again there was no evidence in the neck, and bovine bacilli were again isolated.

"Now further examination of the family history gives a very sad record indeed. Take these cases for example. A child 2½ years of age is breast-fed for 12 months, then

is fed on unsterilised cows' milk, and it developed tuberculous glands in the neck from which bovine bacilli were isolated. A brother, six years old, died from generalised tuberculosis, and a brother, five years old, has tuberculous cervical abscesses. These developed three months after the first appearance of the patient's. About the same period there developed a number of cases without any tuberculosis in the family history. Absolutely nothing—except a child fed on unsterilised cows' milk.

"Then there was the case of a child, aged two years, fed on unsterilised cows' milk, had a brother, nine years old, die from tuberculous meningitis, and a sister, five years old, had a leg amputated for tuberculous disease. Another sister, 17 years old, died from generalised tuberculosis, being primarily in the cervical glands."

And so it goes on. A number of these cases where the children were infected in the glands without any special family history of tuberculosis. Now and then the evidence is very strong, but when we come to the milk supply we find the evidence still stronger.

Dr. Mitchell, in all this work, has not only gone extremely fully into the investigation of individual cases, but he has gone to the dairies and investigated the milk supply. Now before I refer to this, let me say that there is a difference in the observations of different observers. The paper quoted, which I referred to, published by Mr. Stiles and Dr. Fraser, in which they got 67 consecutive bone and joint cases in children—these did not correspond, for example, with the German statistics in bone disease. In the German statistics the majority of them are of the human type. That is a significant fact, because in Germany sterilised milk has been used for a longer period than in this country. A recent report of the Local Government Board by Dr. Eastwood and Dr. Griffiths, also show statistics which are a sort of intermediate between the Edinburgh and the German statistics.

Last week I had staying with me a Pathologist from the Children's Hospital, Edinburgh, and I asked him his experience. He said that 80 per cent. of the post-mortems he had were tuberculosis of the mesenteric glands, and in those cases where he had examined he found the bovine type of bacilli in all cases. Now, of course, the explanation of that is perfectly safe; because an investigation of the milk supply—and I think I can say so as one who owns Edinburgh as my old University—in Edinburgh is a disgrace to the country. It is not microscopically examined, and no inoculation work is done. Recently, an investigation has been carried out by the Medical Officer of Health, and he has gone more thoroughly into it than before, and he found that in the byres there were a number of tuberculous cows. In 1912 he removed from the 76 byres in the city 23 distinctly tuberculous cows. How many more there may have been we do not know.

When we come to examine the milk we find some interesting facts. In the first place he says 84 per cent. of these cases were children under two years of age, and were nourished from birth with unsterilised milk. We know, of course, that an uncreasingly large proportion of Scottish babies are bottle-fed. Then, as evidence in favour of the view that the ingestion of tuberculous cows' milk is an important cause of surgical tuberculosis in children, he records several cases, some particularly striking. One case of a country child, aged nine months, was operated upon at the Children's Hospital by Mr. Stiles for multiple osseous tuberculosis. The father and mother and the other children were all healthy. The milk was obtained from a small farm in the village. Investigating the milk supply of this patient, he discovered that of the six cows in the byre two had tuberculous udders, with the milk from both teeming with tubercle bacilli—and a child of nine months has been fed particularly with this milk.

Then another one. A surgical out-patient of the Royal Hospital for Sick Children, suffering again from multiple tuberculosis of the bones, elicited the following: The baby had been bottle-fed with milk obtained from a small dairy farm. The mother had been informed by the child's grandfather, who worked on the farm, that soon after the birth of the child one of the cows had gone wrong! The animal had rapidly wasted, and became so weak that it was unable to stand—it was actually milked lying on the ground, and this milk was used for human consumption. By this time it was thought expedient to call in a veterinary surgeon, who, finding the animal suffering from generalised tuberculosis with marked involvement of the udder, at once ordered its destruction and burial. In both of these cases the bovine type of bacillus was isolated.

Then another case. A child aged six years. A swelling appeared suddenly on the right side of the neck, an abscess formed, pus swarming with tubercle bacilli. Sternal-mastoid muscle extensively involved by the tuberculous process; right faucial tonsil slightly enlarged and showed a dirty surface. The patient usually had unsterilised cows' milk at every meal. Daily supply of milk to the house about two gallons, and obtained from dairy farm where twenty cows were kept. Byre visited in December, 1912, and it was ascertained that a case affected with generalised tuberculosis (lungs and udder involved) had been removed from the byre for destruction in October, 1912. This cow had been in the byre and used for milking purposes for about four years. He isolated the bovine type of tubercle bacilli from both the cervical glands and from the enlarged tonsil.

Some time ago Mr. Stiles was asked to see a baby which the mother thought was suffering merely from the effects of teething. The child was found to be suffering not only from tuberculosis of the bones of hands and feet, but also from tuberculous disease of the upper jaw, of both frontal bones, and of the cervical and mesenteric glands. No operation was recommended. Death occurred six weeks later from tuberculous meningitis. The parents were both free from tubercle, as also were the other children. On inquiry into the milk supply, Mr. Stiles was informed that two cows were kept on the Home Farm for the special use of the household, that they had both been tested, and that neither of them had reacted to the tuberculin test which had been applied six months previously. He suggested that they were probably too tuberculous to react, and that the best plan would be to kill them. This was done, with the result that both cows were found to be suffering from general tuberculosis, and that one of them had a tuberculous udder. In this case it is evident that the cows were so extensively tuberculous that they failed to respond to the tuberculin test.

Here you have a case in which the actual infection has been traced directly to the milk supply, and I have given this particularly. Dr. Mitchell's case I know is well worked out, and how thoroughly he has gone into it. I should like to say that in my own experience in that hospital the story was exactly the same. It was distressing to find the number of cases of tuberculosis—particularly of the mesenteric glands—which came in to die, and when the case was investigated, over and over again it was the same story that was told. These children were fed on unsterilised milk.

I want to say one word in regard to the advantages which accrue from tuberculous milk. It has been asserted by Mr. Mond in his address that it was desirable to give tuberculous milk in order to confer a certain amount of immunity. But that is mere assertion; it has not been proved by any facts. Supposing we admit it for the sake of argument. There are, first of all, factors such as the number and virulence of the tubercle bacilli in the milk, which you are using.

Secondly, the susceptibility of the individual to whom you are going to give it. In addition, I want to know how are you going to test either of these factors. We have no means of ascertaining the susceptibility of individuals to tuberculosis. We know in a general way of certain families which apparently get tuberculosis more than others. We do not know the reason why they should. We do not know why small doses of tubercle bacilli should be beneficial. We do not know the number of tubercle bacilli in any special sample of milk. We may find the bacillus if we examine more carefully.

In microscopical examination we may be able to ascertain the number and virulence of the bacilli in any given sample of milk, and, therefore, if we are going to use this immunising process, it seems to me a more logical procedure to do your immunising by known doses.

We may be told that a patient here and there who has got rabies (?) rendered immune to human bacilli, but for the one treated there may have been 25, or perhaps 50 killed.

Even with the lower animals, we are not sure of the immunising process. Surely it is irrational to do that with human beings, whose lives are being sacrificed by experiment in the practice of this alone.

It seems to me absolute folly to say we should use tuberculous milk, but some people take tuberculous milk with impunity. Personally, I should hesitate very much to drink milk which I knew to be infected.

Statistics which they give by Ralph Vincent of the Infants Hospital in London say he did not bother about tuberculous milk. The whole object is to get clean milk. Personally, if I had my own way, I should abolish the sterilising of milk and give a clean milk supply. Even if I could do that I am afraid of the impossibility of living in an ideal state. We would have to educate the dairymen before that, and even then I should certainly still say that we must be extremely careful about our tuberculous animals, to effectually get rid of tuberculosis. There is undoubtedly danger, therefore we must take all the precaution necessary; whether by sterilising or not, to get rid of tuberculosis in our cattle.

DISCUSSION.

MR. BURNDRED: Mr. President and gentlemen, I should first like to extend my personal thanks to Prof. Beattie for the splendid way in which he is helping us in performing our duty to the public. It seems to me that the experts of professional bodies in England in the past have not sufficiently made public their views on these matters. Unfortunately up to the present time the Tuberculosis Order coming from the Board of Agriculture did not seem to be helping the public forward. For instance, each month they publish statistics of cases reported of all grouped as cases of tuberculosis—they are not divided up into different classes—tuberculosis with emaciation, tuberculosis of the udder, and so on.

In passing, I should like to mention a case which occurred to me which emphasised the necessity of being careful in using the tuberculin test. This week my attention was drawn to a cow in one of the lairages. I examined it very carefully and found it badly affected with tuberculous peritonitis, and I decided to inject 5 c.c. tuberculin, and take the temperature at 6, 9, and 12 hours. I may say the temperature was quite normal at the commencement. At the end of six hours it had risen to 104.79: at the twelfth hour it had dropped to 102. But I instructed the inspector to take further readings of the thermometer. In the meantime the owner suggested the cow should be sent out and fattened as it had been on poor pasture, and did not look as well as it should. However, the animal was slaughtered and it was found to be absolutely covered with both new and old lesions, and that particular discharge—not very

common in bovine animals—from the lungs which denotes T.B. It seemed to me to practically prove the fact that you can get reaction in advanced cases if you give large enough doses.

With regard to tubercle infected milk, not knowing Prof. Beattie was reading this paper I tried to find out if this was dangerous, and what amount of it was present in England at the present time, so we should know where we stood. The London County Council gave the proportion of such milk at 10 per cent., which seems to be the average practically all over the country. One of the authorities took samples for animal inoculation, and got the enormous percentage of 22—double the percentage for England and Wales.

Another point arises, probably through the Board's pamphlet—a lot of people are saying that tuberculosis of the udder is usually, or almost invariably, present only in aged and obviously affected animals.

Some years ago in Derbyshire I remember seeing a heifer in the first milking with induration of the udder, which I had passed over as probably being non-tuberculous. The control came back positive. The cow had only calved four months, and there was slight induration at the back of the udder; yet a very large number of bacilli was seen on microscopic examination. In this, as in previous cases, there was very little tubercle in other parts of the body, but the udder in this particular case was badly affected.

Last year I accompanied a friend from Sheffield on a visit to Derbyshire, and investigated the milk supply from the factory there. Some of the big factory people take the milk from a big district and mix it up in large vats before sending it out to the different districts. We got a sample from one such factory which was tuberculous. We examined 860 cows and found three of them affected with tuberculosis of the udder.

In Blackburn, 28 cows out of a total of 400, or 7 per cent., were found to be affected with tuberculosis of the udder. Mr. Lloyd, in his annual report for Sheffield for 1911, gives definitely the number of cases of tuberculosis of the udder as 3.5 per cent.

With regard to the microscopical examination of milk, personally I agree with Prof. Beattie that microscopical examination should be supplemented by inoculation. I think I remember having seen in one of the medical journals cases of milk being examined where acid-fast bacilli were found.

Mr. EATON JONES: My experience is pretty much the same as others. We found just the normal proportion in Liverpool. I think the most important thing is that all representatives should be able to examine microscopically. In quite a number of cases ordinary mammitis has been present, and in several cases of microscopical examination of the milk we found tubercle bacilli.

Mr. WOODS: So far as I am concerned, I don't think this is really the place to discuss this question, because Prof. Beattie is preaching to the converted. Yet it seems to me to have great value for one special reason. There have been so many loose statements flying about the country lately with regard to the dangers from tuberculous milk, or even the value to be derived from tuberculous milk, and of course, naturally, those people chiefly concerned in the matter are the people who produce milk. You find a large number of children suffering from tubercular diseases where the type of bacilli is the bovine type. I think that is worth a great deal more than any fears one may have.

With regard to the effect of immunising, the game is not worth the candle. Is there anyone—any father, except perhaps an odd crank, who would submit his child to this treatment in practice? For one who holds that opinion you would find 99 who would absolutely refuse to allow it for a moment. When it is argued by farmers that there is no danger because certain people have written very strongly that there is no danger, we

have our answer in statistics. There is a danger, and a considerable danger.

Mr. WOLSTENHOLME: I would just like to say one word with respect to my feelings in this matter. I think Professor Beattie has rendered not only to us, but to the public and to the nation, a profound service by showing the fallacy of these statements which are being made. It seems to me nothing short of criminal folly that people who know nothing at all and have no means of ascertaining the truth should go about making these statements. Sometimes a man gets it into his head that it is harmful to his child to have it inoculated against smallpox. I could not help reflecting on one passage spoken by Prof. Beattie, of how many people must drink water infected with bacilli of typhoid without becoming infected. There was another instance in my mind. I have known of a large number of carcasses of animals either died or killed immediately before death from anthrax, which had been sent to the market.

I think our friend voiced a matter of some importance, certainly one with which I agree with him, that our medical authorities, in my opinion, scarcely get sufficiently in touch with the public to put before them definite evidence of any particular matter which they may have not only in regard to the question of tuberculosis, but in nearly every other thing which is commenced. Writers on radium treatment, for example, literary men with brains, who know nothing at all about it, are writing up this treatment. If we had more public audiences attending University lectures in important centres on subjects of this sort—which is far more important than lectures on the French Revolution, the public could come into contact with medical men who could give definite facts regarding any matter of most striking importance to the nation.

Prof. SHARE-JONES: I would not like this discussion to close without adding a word of congratulation to Prof. Beattie. I have observed with some alarm these statements which have been made so frequently in the lay press by irresponsible gentlemen, and intensified by the unfortunate fact that one or two very respectable papers—respectable in the ordinary sense of the term—have taken the matter up, and are rather inclined to support these gentlemen, and that this should come in a moment after some years of work on the part of bacteriologists, human and veterinary, to raise the unthinking public to a frame of mind when they may be regarded as a thinking public, and knock on the head the old antipathy to bacteriology, that a statement of this kind should be now issued broadcast, is nothing short of a tragedy. I quite agree that it is rather a pity some publicity could not be given in the lay press of the scientific denunciation of the statement which has been presented to us. I regard Prof. Beattie's scientific denunciation of it as incontrovertible evidence. There would be no getting out of it for them if some publicity could be given to such an address as we have heard today. Personally, I feel more grateful to him every day. Mr. Wolstenholme suggested that public lectures should be given. Well, I come from Wales, and it has been our national memorial to the late King Edward to stump the country from one end to the other on this question of tuberculosis, and what surprised me has been the ready manner in which people have accepted information on the subject. If a campaign were commenced in England with the same vigour as in Wales both the public and the medical profession would benefit.

The PRESIDENT: Before closing the discussion, I should like to make an observation or two on my own experiences of tuberculosis. I realise that I have not the opportunities that some of the whole-time inspectors have; but we men who are in practice do get an opportunity of seeing a large number of cases of tuberculosis,

and some cases which inspectors do not encounter. We are called upon to treat animals with various infections, and amongst them we frequently realise that we have a case of tuberculosis to deal with which the owner does not suspect.

One point in Prof. Beattie's paper interested me very much, and that was the possibility from the evidence he showed, of the transmission of this disease from the bovine species to the human. I think that many veterinary surgeons will agree that we in our practice if we have been at all observant, have evidence that the disease is communicable from one species of animal to another. I think many of us have satisfied ourselves as well as we can, with the powers at our disposal, that the bovine animal has been the means of supplying the organism which has set up the disease in another species of animal. I have encountered frequently tuberculous mesenteric glands, particularly in horses that have been given large quantities of milk owing to illness.

I have in mind two cases of tuberculosis in horses where the disease has been manifested in other organs, and I have felt in these cases that they had received the infection from cattle, because at some period of their existence they had severe illness, as in the case of the Belgian horses referred to, and been fed with milk containing tubercle bacilli.

I think it is common knowledge to all medical and veterinary men that small doses of the virus is calculated, if given judiciously, to afford certain immunity.

When I commenced to study veterinary science it was known, and had been for many years, that in cases of rabies, attenuated virus could be given. Since then the immunizing of human beings and other animals against attacks of disease has become a big scientific business, and to-day we realise it is a matter that has to be proceeded with on very careful lines. We do realise its value, but we also realise it is a matter with which we ought not to recklessly tamper.

Prof. BEATTIE: Gentlemen, in the first place I want to thank you heartily for the way in which you have received the paper. I think it would be a very good thing if the medical profession and the veterinary profession could be brought more closely together than in the past. I am sure it is becoming increasingly important that those working the Public Health Service—the medical health officer, biologist, and veterinary surgeon shall work in conjunction. In regard to some of the points raised, I am extremely interested in the one regarding the rise of temperature following injections with tuberculin in advanced cases of tuberculosis, where there was a rise of temperature in the short period of six hours, and the temperature down in nine hours. I should like if somebody could get information on the point where in cases injected with tuberculin and no reaction, whether you did not get a rise at that early period. My reason for asking is that some investigations of Dr. Pinfold (?) have shown that you get a rise of temperature to 104 or 106 if you take the temperature an hour or an hour and a half afterwards. If you don't you find nothing at all occurs. Some of these temperature records which have been mentioned in connection with toxins have been perfectly erroneous, you can get them with distilled water. And, further, he showed that if you diluted your toxin (?) you got a bigger rise in temperature than when concentrated.

Then there was the case of tuberculosis (?) without any definite lesions. I think these sort of cases do occur. We have, curiously, recently had two cases; one in a herd of 21 cows. Milk was sent in the ordinary routine, and a very careful examination was made, and there was only one cow in that herd which was at all suspicious—the others were declared to be perfectly free. A sample was taken from the suspicious case, and a sample taken from the others—I think that is an extremely important point—and the result was the suspected cow

showed no evidence, and the other was tuberculous. Then the cows were divided up into batches of four, and from all these four we found tuberculosis.

Again, these cows were examined very carefully, and still the veterinary inspector said he could find no tubercle till we took further samples and we were able to separate the cow in each case. Unfortunately the matter here was outside our area.

In another case of exactly similar nature, the animal was slaughtered. In that case I asked specially that the whole of the udder should come to us. I cut it into the smallest pieces and in only one extremely small piece, which I thought was somewhat suspicious—on making a section I found a typical tuberculosis nodule.

Then the question of microscopical examination and acid-fast bacilli. This acid-fast bacillus occurred in a specially selected sample. One case that has been published and specially referred to in which acid-fast bacilli was not only present in the milk, but was found in the guinea-pig. In inoculation in the guinea-pig there was nothing suspicious. We examined microscopically, I don't think there was any tubercle, although we found acid-fast bacilli. We carried it further. We grew it and found it grew perfectly well. Since that period it has been puzzling us all along, until yesterday we have come to the conclusion that we have definite evidence that it is another very like tubercle but proves to be not tubercle.

I still hold that microscopical examination of milk alone is extremely dangerous. Even with efficient inspection by veterinary surgeons you run a risk of some of these cases being missed.

In regard to the same sample of milk being reported by one authority as tuberculous, and by another authority as non-tuberculous, I should not like to say anything unless I knew the method used, and the quantity of milk used, as that is a great factor in this matter. It is not a case of the method adopted not being a good one. I always recommend a considerable quantity of the milk and the whole of the deposit to be stirred up and then inoculated.

One or two have raised the question of publicity of these things. I think it is a great pity that we in the medical profession are so absolutely tied down by the restrictions of the General Medical Council.

The PRESIDENT: I would like to take this opportunity of moving that a hearty vote of thanks be accorded to Prof. Beattie for giving us this interesting address. When I asked him to give us a lecture he did not hesitate a moment when he heard the kind of lecture we wanted. We have had him here on several occasions, when he has given lectures which have been of great value to us, but in my opinion this last lecture is of quite as much importance as any he has ever given, and it is given too at a very opportune time when almost everybody in the country of average intelligence is greatly interested in the subject of tuberculosis. It has come at a time when statements are being made throughout the country by first one and another observer, and by people who make observations from many different points of view and proceed in a variety of ways. When one has to consider human and other animal life, the people whose observations surely are of the greatest value are those who specialise in work of that kind.

In Prof. Beattie we have a specialist who is more than ordinarily interested in the particular subject that he has been dealing with to-day, and he seems to infuse enthusiasm in the minds of members of our profession when he comes into contact with them, and he is always interested in any case of tuberculosis in the lower animals brought before him. I have been for some time associated with work that is being done in that direction by Prof. Beattie, and I have also seen the great work going on at the laboratory. He has been most

anxious to assist me in obtaining a thorough knowledge of the disease, and enabling me to make such examinations as are necessary and desirable. I am certain that it is of great value to veterinary surgeons to be able to come into contact with men like Professor Beattie to help us, and we are greatly indebted to him. Unfortunately we have very few men in our profession who have the opportunity of doing work such as he has to-day. Consequently, if we had to rely on the assistance of the members of our profession only, I am afraid that our information would be somewhat limited, so that on that account we ought to be doubly thankful. With these few remarks I beg to move that a hearty vote of thanks be given to Prof. Beattie.

Mr. WALKER: I have great pleasure in seconding the vote of thanks, and I am sure we are all indebted to Prof. Beattie for his excellent address. I may say that I think it was the feeling of the Committee when we decide to approach him it was with the view to getting

him to deliver an address which would give the lie direct to Dr. Mond. I look upon this as a national matter, and as regards publicity, this lecture will, of course, be reported in *The Veterinary Record* and *The Veterinary News*. With regard to publishing it in the lay press, we could do it through our Society along with his report on the sterilization of milk. I think that would probably get Prof. Beattie out of his difficulties in regard to the question of etiquette of the medical profession.

Prof. BEATTIE: I simply again thank you very heartily. It is a pleasure to me to do this, as it is a subject in which, as you know, I am particularly interested. I feel strongly in regard to these statements by absolutely irresponsible people, which may do enormous harm, and anything I bring before the Society, the Society is at liberty to use it as it likes.

A. WALKER, F.R.C.V.S., Hon. Sec.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.		Outbreaks	Slaughtered.*
	(a)		(a)		(b)		(b)		(b)	(a)	
IRELAND. Week ended April 4	...	...	11	71	...	...	Outbreaks 5		8	11	15
Corresponding Week in	1913 ...	...	...	...	...	...	2		10	2	26
	1912 ...	...	...	...	...	...	...		5	12	131
	1911 ...	...	...	...	...	...	3		7	3	18
Total for 14 weeks, 1914	...	1	2	63	591	...	34		296	74	332
Corresponding period in	1913 ...	...	...	...	...	...	75		220	40	232
	1912 ...	1	1	...	...	...	27		213	64	544
	1911 ...	3	3	...	...	1	36		209	38	684

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, April 7, 1914
 Note.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

VETERINARY MEDICAL ASSOCIATION OF IRELAND.

(NATIONAL V.M.A.—IRISH BRANCH.)

The annual general meeting was held in the Gresham Hotel, Dublin, on Thursday, January 29th, Mr. P. J. Howard, President, occupied the chair, and there were also present:—Messrs. Watson, Heney, Wilkinson, Patrick, Doyle, Prentice, McKenny, Reavy, Healy, Purcell, McCann, Col. Moore, and Professors Dunne, Craig, and O'Connor.

The PRESIDENT: Gentlemen, up to the present the minutes of the last meeting have not been circulated, but they will be in due course.

Mt. WATSON: I beg to propose that they be taken as read.

Mr. PATRICK: I beg to second that.

There being no objection the minutes were signed by the Chairman.

Prof. O'CONNOR announced that letters of apology had been received from Messrs. T. D. Lambert, Dunlop, Winter, Hare, Taylor, Thompson, Shearman, Ross, Kerr, Dobbyn, Chambers, Jarratt, Nolans, Mahony, McGuinness, and Preston.

The SECRETARY announced he had received letters of acknowledgment of votes of condolence from Miss Hunting, Mrs. Thompson, and Mrs. O'Reilly.

The SECRETARY: With regard to the Hunting Fund I just want to say that we have received a letter from Mr. Macqueen and Mr. H. Gray—Mr. Gray is Treasurer and Mr. Macqueen is Chairman—and it asks us to subscribe towards this very deserving fund.

REPORT OF COUNCIL.

The SECRETARY read the following report:—

A meeting of the Council of the V.M.A.I. was held on Thursday, Jan. 15th. There were present: Mr. Patrick in the chair; also Messrs. McKenny, Wilkinson, Watson, Dunlop, Holland, and Professors Craig and O'Connor.

Minutes of the previous meeting were read, confirmed, and signed.

Apologies for non-attendance were received from Messrs. Reavy and Heney.

A letter from Mr. Power was read with reference to fees under the Tuberculosis Order, 1913. Mr. Holland undertook to write to Mr. Power drawing attention to the scale of fees drawn up by the Association in May, 1913, and approved by the D.A.T.I.

A letter was read asking for a subscription to the Hunting Fund. A subscription list was opened by Messrs. Patrick, McKenny, Dunlop, Wilkinson, Watson, and Professors O'Connor and Craig, each subscribing one guinea.

It was arranged to hold the annual meeting, to be followed by the dinner on January 29th. The Hon. Sec. and Mr. McKenny to make arrangements for the dinner, and Mr. Heney to be asked to undertake the musical programme, a sum not exceeding four guineas to be allowed Mr. Heney for this purpose.

The following accounts were passed for payment:—
Reprints £2 5s.; Clerical assistant half year £5;
Secretarial expenses and postage £3 10s. 7d.; Engraving of medal 2s. 6d.

In addition to those eligible for re-election the following Vice-president and Members of Council were nominated:

President: Mr. Reavy, proposed by Mr. McKenny, seconded by Mr. Holland.

Vice-Presidents: Mr. Wilkinson, proposed by Mr. Watson, seconded by Mr. Dunlop.

Members of Council: Mr. Carr, proposed by Mr. Russell, seconded by Prof. O'Connor; Mr. Prentice, by Mr. Watson, seconded by Mr. McKenny; Mr. Barlow, by Mr. Wilkinson, seconded by Mr. Watson.

It was proposed by Mr. Watson, seconded by Mr. Wilkinson, and passed, Mr. McKenny objecting, that Rule 9 be amended as follows:—

RULE 9.

"Each member shall pay in advance an annual subscription of half-a-guinea (10/6), which shall fall due on the first day of January in each year. No member shall be entitled to exercise any of the privileges of the Association who shall be in arrear with such subscription."

Amendment.—To add the words—"and in those cases in which the subscriptions are in abeyance for 3 years, the membership will automatically cease."

Mr. McKENNY: I was very sorry I had to oppose that, the rules as they stand at present have been considered from time to time, and that rule has received very great consideration. As the rule stands at present, if anybody is in arrear the Treasurer has to submit it to the Council. At the meeting the Treasurer told us that there was one gentleman who had paid him three guineas, six years arrears. I think you mentioned another, and even the amount of four guineas has been paid. The suggested addition to the rule, in my opinion, would not only unwisely tie the hands of the Council in this matter but would render the rule ambiguous, inasmuch as the addition would make it imperative that a member whose subscriptions remained unpaid for a given period *ipso facto* would cease to be a member of the Association, whereas the rule as it stands gives the Council discretionary power in dealing with members whose subscriptions are in arrear, therefore we stultify ourselves if we add the suggested addition to the rules—I may also state that rule No. 10 would become obsolete if the suggestion is adopted, as its utility would be destroyed. I don't know, but I think that after the matter was discussed Mr. Watson, who proposed it, was not very strong on the point himself. However, he stated it was a thing he only suggested, and that it would get full discussion at this meeting.

Mr. WATSON: I don't wish to take up the valuable time of the meeting, considering our annual dinner comes on immediately this meeting is over. Mr. McKenny objects to my amendment, but then Mr. McKenny generally finds himself in the unfortunate position of opposing everything he does not father (laughter). Now as a matter of fact these rules have been in existence for a great number of years. They were principally drawn up and promulgated by Mr. McKenny and the late Mr. Hedley. I am responsible for some small amendments, and the one Mr. McKenny hangs his case on was drawn up by me. The Treasurer gave us at the last Council meeting some instances of members who paid their subscriptions after the lapse of three or four years.

Mr. McKENNY: And six.

Mr. WATSON: He did not tell us how many have gone into eight or ten years and have not paid. I think if the rules were carried out as they stand they would meet the requirements of the case. But as a matter of fact we know they have not been enforced, and I think it is time that some rule should be introduced that would provide that membership should automatically cease, say at the end of three years, if the subscriptions are not paid. I should like to know the number of stamps paid in respect of members who have not paid for six or seven years. I think my suggestion would meet the requirements of the case instead of writing to them. If this rule came into operation members would soon realise they automatically cease to be members of the Association if they do not pay their subscriptions.

Prof. CRAIG: I want to propose that this amended rule be adopted with the proviso that it shall come into force at the beginning of next year. This will give members who are in arrears an opportunity of paying the arrears of subscriptions. If they do so, then we can hope for a good balance in hand at the end of the current year.

Mr. WATSON: I have no objection to that amendment.

The PRESIDENT: As Mr. Watson is agreeable, and as it will not come into operation for another year, I think it might be well to refer it back to the Council.

Mr. McKENNY: The Council really are tying their hands. You will find it better to leave our hands free. That was under discussion before.

A MEMBER: And still the money is due.

Mr. WATSON: We shall have under discussion Prof. Craig's report, and perhaps it would be unfair to anticipate it. We might get some information from Prof. Craig's statement on our financial position.

The PRESIDENT: The matter might be amicably arranged at the Council meeting.

Mr. WILKINSON: Why not decide it now when there are so many members present?

Col. MOORE: It seems to me that the man who does not pay up in three years ought to be struck off.

Mr. WATSON: There are members in arrear for eight years.

The SECRETARY: Are they worth considering?

Col. MOORE: I should make it a rule that any man who was in arrear for three years should cease to be a member.

The PRESIDENT: Would you strike him off automatically, or have each case considered by the Council?

Col. MOORE: I should say that a man who does not pay for three years does not wish to be a member, and that he has ceased to take any interest in the Association.

The PRESIDENT: Better decide the matter now by having a vote of the members present. It is further amended by Prof. Craig that it does not take force until January, 1915. The question is whether we will have that rule amended as suggested or leave it—as Mr. McKenny wishes—in the hands of the Council to consider the list of defaulters.

Col. MOORE: May I make a suggestion? Do you think anyone would pay £10 and become a member for life? Or £5, that is tantamount to ten years. That would considerably relieve the burden of a standing subscription of 10/6 a year, which is somewhat of a nuisance.

The PRESIDENT: That would be quite under a different heading from the present motion. I think it a very good suggestion, and you could propose that the Council should consider it at the next Council meeting and give their opinion as to whether it should be a rule. But in connection with this present matter the question to be decided is whether we will have this amendment of Mr. Watson's made, or Prof. Craig's, or whether we

will have the rule as it is—that we consider the question of defaulters from time to time. We will vote on Mr. McKenny's amendment. Does anybody second Mr. McKenny's proposition that the rule should be left as it is? [There was no response.]

The PRESIDENT: I regret, Mr. McKenny, that you are not on the winning side to-night. Mr. Watson's amendment of Rule 9 is passed, but it does not come into force until 1915.

Messrs. Doyle and Patrick were appointed scrutineers of the voting papers for the election of officers and Council for 1914.

TREASURER'S STATEMENT.

<i>Receipts.</i>		£	s.	d.	£	s.	d.
To balance from 1912					31	2	9
Subscriptions from 1913		32	16	6			
Arrears paid		14	14	0			
Payments in advance		1	1	0			
					48	11	6
Dividends received					4	4	8
	£ s. d.						
Invested in Consols	80 2 7						
" " India 3½%	25 1 3						
" " Bursary account	40 0 0						
	£145 3 10						
Stock	133 8 2	Consols					
	25 10 10	India 3½%					
	£158 19 0						

<i>Payments.</i>		£	s.	d.	£	s.	d.
By Transfer to Bursary Account	...	1	2	2			
Reporting meeting	...	10	10	0			
Audit fee	...	1	1	0			
Secretarial expenses, Assistant	...	10	0	0			
Printing and circulating Proceedings	...	3	15	0			
Postage, etc., Secretary and Treasurer	...	3	18	7			
Stationery and General Printing	...	4	7	4			
Hire of Room	...	1	0	0			
Contribution to Annual Dinner	...	1	1	0			
Victoria Benevolent Fund	...	2	2	0			
Wreath (late Mr. Hedley)	...	1	11	0			
Deputation Expenses	...		13	6			
Law Costs	...		6	8			
Contribution to National V.M.A.	...		3	10			
Balance	...	32	18	8			
					£83	18	11

Bursary Account to January, 1914.

		£	s.	d.	£	s.	d.
Dr. To Balance, Jan. 1, 1913	...	46	0	5			
Proportion of Interest, Dec. 31	...	1	2	2			
					£47	2	7
Cr. By Engraving Medal					2	6	
Balance Invested	40 0 0						
Included in Bank	7 0 1						
					47	0	1
					£47	2	7

Examined and found correct,

Jan. 21, 1914. JOSEPH H. WOODWORTH, F.C.A.

Prof. CRAIG: I refer you to the column in which the moneys that we have invested are noted. You will notice that there are two small paragraphs. The first one refers to the amount of money we have paid for certain stock, etc. The bursary money is invested in Consols. In the second paragraph the same stock is put down, but at par value. The reason for doing that is that after the late Mr. Hedley's death the moneys had to be transferred from the joint trustees to Mr. McKenny and the par value only given.

For the stock there is £4 4s. 8d. in dividend, and of that dividend one-fourth is added to the bursary account. The bursary account is intended to enable a medal to be presented to the College for competition by the students of the final year. There is nothing further I think that requires to be noted in reference to the bursary account. In the general account, first, there is the reporting of meetings. Last year there were five meetings—there was an extra meeting in connection with the transfer of the College. The item of law costs is an account we had with our solicitors which extended from 1906 to 1911, and had to deal with some investigations, such as the McDonnell case in Dublin, and also in connection with counsel's opinion in reference to the Finance Act and relative to the rebate on the Motor Tax and our position as medical practitioners. This year we have given our first contribution to the National Veterinary Medical Association, we having now become affiliated with that Association—and you will notice the contribution is £3 10s. The contribution is put down at one shilling per head, and we record 70 as the active list of our members. The "deputation expenses" were in connection with certain deputations that were sent to the Department. Mr. Watson had a lot to do with that. Subscriptions: You will notice the subscriptions for 1913 were £32 16s. 6d.—that is to say that something like 65 members paid their annual subscription. That is not what it should be. The membership of the Association is something between 135 or 140, and yet less than half of them have paid their annual subscription. No doubt we also obtain a good revenue from arrears, but I think it would be much better for the Treasurer if all subscriptions were paid annually and not allowed to go into arrear at all. An odd subscription of three or four guineas is very welcome, and I hope that when this new rule is put in force it will allow of all the subscriptions being paid. Occasionally a subscription is paid in advance. If you find there are some points in the balance sheet which are rather hazy and which require further explanation I shall be glad to give it.

Perhaps I may refer to the dividend received. Last year this amounted to a little over £3. One of the quarterly dividends has not yet been received, and I don't think we will get it now. I think it must have gone astray during the late Mr. Hedley's fatal illness.

Mr. HEALY: Do you give any grant to the International Congress?

Prof. CRAIG: No, we deferred that at the last meeting to the beginning of this year.

Mr. WILKINSON: I beg to propose that the balance sheet be accepted.

The SECRETARY: I beg to second that.

The motion was put and passed unanimously.

The PRESIDENT: Before we leave this question of the Treasurer—who has all the money—we might consider the matter that was referred to this meeting from the last one about our further subscription to the International Congress.

Mr. REAVY: With your permission, Mr. President, I would like to ask a question, it looks like one in geography. Do the members who have charge of the International Veterinary Congress know there is such a place on the map as Ireland, or that we have a Department of Agriculture, or that we have veterinary officers

attached to that Department? It seems strange to me that in not one section have they appointed an Irishman. True, the Royal Veterinary College of Ireland is represented by the Principal. Why Irishmen should be so completely ignored I am at a loss to know, the only way they seem to remember us is to take our subscriptions.

Mr. HEALY: I agree with you. I don't see why the Irish Department of Agriculture should not be represented. Whether that is due to laxity or what on our part I do not know, but I think it is time the matter should be remedied. There is no general practitioner going over to attend the Congress. I think that at least one member should attend. Mr. Howard has got a new position, and I think he has plenty of time on his hands. I say it is hard lines that we have to supply money and not get proper representation.

Mr. McKENNY: Might I say that this may be considered another injustice to Ireland, and that perhaps we might take advantage of it. I am not inclined for Home Rule for Ireland from one point of view, but perhaps we might take advantage of it now. The profession in Ireland has not been consulted in this particular direction. Why the profession in this country should have been treated in this way I do not know. But as regards being on the Council of the R.C.V.S. I think that is our own fault. We did put up from this Association two members and they got in.

Mr. WILKINSON: And they never attended. Oh, yes, Mr. Byrne did.

Mr. McKENNY: I would like that at our next general meeting we should put forward Mr. Watson and Mr. Howard. If they would accept the office I am certain we would be well represented.

Mr. HEALY: Why not have them elected at the next Council meeting in June?

Mr. McKENNY: Yes. Mr. Watson, would you consent?

Mr. WATSON: I went up for a contest of this kind before and got very badly mauled. (Laughter.) I don't want that repeated, but now that I am on my legs I want to tell you I met Mr. Howard at the last annual meeting of the National, and he is a most popular man of Irish descent. I have not got the slightest doubt that if you put forward Mr. Howard he will be triumphant at the poll. I really think Mr. Howard is the man.

Colonel MOORE: I happened to be at the meeting in connection with this International Congress last week, and I think there is some mistake. I don't think the Council want to put a slight on Ireland at all. They intend to approach the Department of Agriculture and the Royal Dublin Society. The matter was talked of at the meeting, so I think that perhaps we are going a little too far. I was not told who was going to read a paper from Ireland, but I think they want the assistance of the Department of Agriculture anyhow.

Mr. HEALY: It is only in the discussion the representatives from Ireland will appear—Prof. Mettam and Prof. Craig.

Mr. REAVY: As far as I can read from the Veterinary Press you are debarred. My recollection is that it was suggested some steps should be taken, but the matter was closed and nothing was done. I don't know whether anything has been done, but evidently they can take our money—but they won't take anything else.

Mr. WATSON: If it would not be too late I would like to propose that the name of our friend Mr. Prentice should go forward. I have known Mr. Prentice for a number of years, and I must resent his hiding his light under a bushel any longer. I think it is time he took his stand for Ireland. He occupies a leading position in connection with the Department of Agriculture, and I strongly urge that his name be sent forward.

Mr. PRENTICE: I have not the modesty that Mr. Watson ascribes to me. I anticipated that my Depart-

ment would be represented as any other Corporation will be represented. Therefore I don't think there would be any use in now allowing my name to go forward at all. The door is closed.

Mr. REAVY: I think it would be an insult to the Department of Agriculture and to Mr. Prentice if we proposed his name.

The PRESIDENT: The way I look at it is this, that owing to the absence of a regular representative on the Council of the Royal College in London, where this thing was first considered, there has been a possible oversight, and that Ireland has—if you like—been forgotten. Our position is that we have given a subscription, and that we have promised a further subscription. I am sure that if our Secretary only intimates when that subscription is being sent that they have quite forgotten to pay the necessary compliment, it will be quite sufficient. As I say, it was simply owing to thoughtlessness there was no Irishman present at that Council meeting. Of course it looks bad when they applied for our money and got it. I took it from reading *The Veterinary Record* and *News* that they were applying for delegates. But outside any Society, we of the veterinary profession should have been considered, and the least compliment that could be paid us was that some Irish practitioner should have been put on. I am sure the matter is an oversight, and that if attention is drawn to it it can be remedied. I am sure that what Mr. Reavy means is that the profession in Ireland should be represented on the Executive Council or whatever high authority has the management of affairs.

Mr. REAVY: I cannot understand why the veterinary staff of the Department of Agriculture was forgotten, because the English Board of Agriculture is well represented. Manchester is represented by its Veterinary Officer of Health as well as two or three other places in England and Scotland. They forgot we have the same officers in Ireland.

The PRESIDENT: It is quite possible that the Dublin Corporation have already applied.

Mr. REAVY: These men are on the different sections and I cannot understand why they forgot the Department of Agriculture.

The PRESIDENT: Let the Board of Agriculture stand by itself. I say the veterinary profession should be considered. The Board of Agriculture will be sure to get its head in somewhere—Mr. T. W. Russell or someone else.

Mr. McKENNY: No representative from Ireland has been appointed at all. I think we would be stultifying ourselves by drawing any attention to the matter at all. Our report will appear in the Veterinary Press. We have promised them money; let us send it and have done with it.

The PRESIDENT: Why send them money at all?

Mr. McKENNY: We promised it, and it is in a good cause to the whole veterinary profession.

Mr. HEALY: Would it be well to find out whose fault it is in not having representation from Ireland?

Mr. REAVY: I think it reflects on the profession in Ireland.

The PRESIDENT: Does anybody propose that we should take any particular action?

Mr. REAVY: It is too late. Treat it with silent contempt.

ELECTION OF OFFICERS.

The PRESIDENT: Of course, as you are already aware, Mr. Reavy has been unanimously elected as President. (Applause.)

The Vice-Presidents will be Mr. Dunlop and Mr. Wilkinson. (Applause.)

The New Members of Council will be Messrs. Heney, Reavy, Magee, Prentice, and Carr. (Applause.)

The Secretary has been given a further year, and the Treasurer has also got home. (Applause.)

Before we leave I wish to congratulate our officers for the coming year, and I hope that under their care and management our affairs will prosper. (Applause). I also wish to thank the members of the Association for the very great consideration they have given me during my time. (Applause).

On the motion of Mr. Watson, seconded by Mr. McKenny, a cordial vote of thanks was passed to Mr. Howard, and the proceedings terminated.

THE ANNUAL DINNER.

The chair was occupied by Mr. P. D. Reavy, the new President, and there were also present: Col. J. Moore, A.V.S., J. McCann, J. F. Craig, G. T. Dunne, P. J. Howard, D. S. Prentice, J. Doyle, W. C. Patrick, W. H. Wilkinson, J. McKenny, W. H. Bradley, J. Holland, L. M. Magee, J. F. Healy, F. A. Heney, J. J. O'Connor, A. Watson, M. Purcell.

Visitors: J. R. Ellison, M.R.C.V.S., W. J. Byrne, W. Usher, G. Beckett, F. Jeffs, F. Horner, J. R. Morgan, J. D. Cope, V. Sanderson, G. Haines, M. Trench, J. Whitmore.

Apologies: E. C. Winter, T. D. Lambert, J. B. Dunlop, J. B. Hare, F. W. Taylor, J. K. Thompson, F. J. Shearman, J. J. Ross, F. Kerr, A. Dobbryn, W. Chambers, G. H. S. Jarratt, J. Nolans, B. P. J. Mahony, J. Preston.

After dinner, which was excellently served, the toast of the King was musically honoured.

The PRESIDENT proposed the health of the Past-President, and said: You all know what a good fellow he is, and what he has done for this Association. It is not necessary for me to say anything in his praise, beyond this, that during his year of office the affairs of the Association could not have been better looked after. (Applause).

The toast was enthusiastically received, "For he's a jolly good fellow" being sung.

Mr. HOWARD, in responding, said: I have to return you my very sincere thanks for the kind way in which you have drunk my health. I can assure you that it was with no small misgivings that I undertook the honourable position of President of this Association. I felt my position all the more difficult by reason of the fact that a splendid man filled the chair previous to myself. I was only a very humble country practitioner—(No, no)—and I felt I was assuming a load I would not be able to carry. But, thank Heaven, the time has come when I am relieved of the burden. (Laughter). I hope sincerely that the Association is at all events no worse off than when I took up the reins of office. (A Voice: "It is all the better," and applause). I honestly endeavoured to do my little best. (A Voice: "And you succeeded.") Well, if I have been a success it must be mainly attributable to the kind co-operation I received from every member of the Association. This evening, at our annual meeting, we were considering a grave question—that is, what we suffer owing to our not being directly represented on the Council of the Royal College of Veterinary Surgeons. It is unfortunate that such a state of affairs should exist or should be allowed to exist, because there is no doubt that the profession in Ireland ought to be represented. (Hear, hear). But there is this difficulty—when men who are millionaires in Dublin treat their profession with silent contempt and do not see their way to lose time and money attending meetings in London, it is scarcely to be wondered at that the country practitioner cannot afford to attend. I am awfully sorry that I could not afford it. If I could I would willingly do the work, or anything I could to benefit the profession in Ireland. But I don't think that any practitioner in Ireland should put himself out and attend meetings in London. It might be possible in a few years more of progress that the Association might be able to purchase an

aeroplane without much trouble or expense. (Laughter and applause). [A Voice: And insure his life.] (Laughter.) Well, the veterinary surgeon's life is not worth much. But I want in conclusion to thank you for all the kindness and assistance afforded me during my year of office, and I can only express the hope that this Association will continue to prosper under the guidance of our esteemed new President, Mr. Reavy. (Loud applause).

The CHAIRMAN gave the toast of "The Army Veterinary Corps," which was worthily honoured.

Colonel MOORE in responding, said, when I came here to-night I did not know that I would be expected to make a speech, otherwise I should have had one prepared. As a matter of fact I should really have been in Aldershot to-night. That is now my station, but having to move house and home, I find myself in Dublin and have come along to join you. [A Voice: "We are glad to have you," and applause]. Gentlemen, I thank you for having toasted the Service to which I belong, and for having associated my health with the toast. During the past few days you have noticed that the War Office has adopted the expedient of advertising the Army in the newspapers, and I may therefore be excused if I follow suit and say a little bit about my own Service. You know that the Army Veterinary Service is divided into several sections. We have a regular Army Veterinary Service, a Special Reserve, a Territorial Force Service, and lastly young contingents of Officers Training Corps. Our regular Army Veterinary Service consists of about 170 officers, and these officers are distributed for duty in the United Kingdom, South Africa, India, and Egypt. If we went to war the number that would be required would be very large—more really than the Army Veterinary Service can supply. We have to find ways and means to supplement our regular officers; and for this we have the Special Reserve in the first instance. I am glad to say that this Special Reserve during the last few years has taken on very considerably. It is a service of civilians to whom commissions are granted. The Army trains them for three months, after which they return into civil life. They get a retaining fee of £20 a year up to the age of forty and are given £40 for outfit, that is for uniform. I cannot conceive why more young men don't rush at it, because it is a very good thing. I am very glad to say though that it is progressing. I take a personal interest in it, and I trust I may elicit your support in helping it on. A fair number from Ireland have joined. The third branch is the Territorial Veterinary Service. We have no territorials in Ireland. During the last few weeks in Aldershot we have had a class of territorial officers, and I was surprised at the advance that has been made. The officers' regular service dined with them one evening and all sat down in mess kit. This in itself is a sign of the progress that has been made. Then the last and youngest of all services is the Officers Training Corps. The idea of a veterinary contingent was conceived in this country. Prof. Mettam, Prof. O'Connor, Prof. Craig, and Prof. Dunne are members of it, and it is an excellent little contingent—none better. The value of the officers training contingent is not only one of veterinary service, but is a training for the youth to be good fellows, to cultivate gentlemanly ways, and so on. It also carries a potential sort of benefit to the Army. I have enumerated all these sections in detail because collectively they mean a great deal. I believe we will never excel in the Army unless we can make ourselves big. The more we collect these sections together into one large whole the better chance we have of making ourselves known, felt and appreciated. The Army Veterinary Service has progressed since the Boer war. We were hopeless then, but we have pulled ourselves together, and are now going along like a house on fire. I am certain if we

ever came to war again we will render very good service, and a very good account of ourselves. Again I thank you for having drunk my health. I take great pleasure in being a member of this Association in Ireland. I am very sorry I have to leave after three very happy years, but I suppose, being a soldier, I must move on. In any case, I shall always look back on the pleasant days spent in Ireland in connection with this Association of which I trust I shall continue to be a member and come to see you occasionally. [A Voice: "We will always be glad to see you," and applause].

Mr. WATSON: I give you the toast—the very important toast of "The Department of Agriculture," and particularly of that branch that is presided over with such dignity by the Chief Veterinary Officer, Mr. Prentice. The department is a most important factor in the progress of Ireland. Ever since Mr. Prentice has become chief inspector improvements have been made in every direction. At the same time anyone who knows the Department of Agriculture, knows that the department and its representative officers are the best abused men in Ireland. (Laughter). If you go down to any part of Ireland and happen to mention any member of the department you will be lucky if you are not stoned out of the town. (Laughter). But after all the veterinary branch have done excellent work for Ireland. Why should not the department be an important body, considering that Ireland is not a manufacturing country? We hear about the introduction of Home Rule and of the blessings that would flow from it—industries would grow here and blossom there; but it is my opinion that Home Rule or no Home Rule Ireland is bound to remain an agricultural country, and the most important feature will remain—the live stock. And the live stock is largely looked after by the officers of the department. Some of the improvements that have been effected have been made in the breeding of thoroughbred stock. I think my friend Mr. Bradley will admit that the thoroughbred stock in Ireland has improved by leaps and bounds within the last ten or fifteen years. Therefore I think we have every reason to be proud of the Department of Agriculture. I couple with the toast our old friend, Mr. Prentice. (Applause).

Mr. PRENTICE in responding, said: Like Colonel Moore, I did not expect to be asked to reply to a toast, but our Chairman is very urgent. I represent more especially the veterinary branch of the Department of Agriculture, and I think I can claim that some progress has been made by us. Recent events have caused it now to have an augmented and a re-organised veterinary staff. We don't intend to stand still; we intend to progress. I suppose we have sixty veterinary surgeons, some of whom have been with us for 30 or 40 years, but the great majority of them are new comers. The Department of Agriculture has the ruling voice in the appointment of certainly over 160 veterinary surgeons in this country. We have had recently in Ireland outbreaks of foot-and-mouth disease, which did not appear for 28 years previously. That malady has awakened us to new energy. I might here say we propose to provide an extensive laboratory, and I know that veterinary surgeons, especially such as local authority veterinary surgeons should take advantage of that laboratory.

Then I might refer to one disease which breaks out in dairy yards—I mean contagious abortion. We invite you to diagnose this contagious abortion as it affects dairy cows. We receive, as is done by the English Board, blood from the supposed affected animals and we inform the owners—and I trust we will be able to inform the veterinary surgeons—whether these animals are so affected. Hitherto we have been able by using a vaccine, known as anti-abortion, to inoculate a considerable number of dairy cattle with re-

markably successful results. All I would ask is that in sending us material for this test known as the agglutination test—that thoroughly aseptic measures be adopted, otherwise it will do us or the veterinary surgeon no credit. Having gone into that small item, I can perhaps only say that in the Department of Agriculture the veterinary profession has a strong friend in this country. It takes the greatest interest in the veterinary profession, especially in the veterinary surgeons whom it in a measure controls, as it does in the case of local authorities under the Diseases of Animals Acts. I don't know whether I would be right here in urging one point on veterinary surgeons who are veterinary inspectors. There was a time, we all know, when examining sheep for sheep scab—unfortunately a very common disease—sufficient care was not exercised, and only a casual examination was made. Now we recognise that we must go more deeply into the disease if we are going to eradicate it. I again thank you on behalf of the department. (Applause).

Mr. PATRICK proposed the toast of "The Royal College of Veterinary Surgeons," and said: The financial conditions of the College are unfortunately not as good as they might be, and we must all regret that its efforts are hampered by want of the sinews of war. The profession has been appealed to and has responded fairly well in different quarters. We all deplore the loss of the late Mr. Hunting—a very distinguished member. We had the Annual Meeting and Dinner in Dublin two years ago, and it was pronounced to be one of the best and most successful functions ever held in Ireland. I hope it won't be long before we have them in Ireland again to show how we appreciate that body. (Applause). The toast was cordially received.

Professor CRAIG, in responding said: This toast is generally associated with the name of a member of Council, and I am sorry to note that no Councilman is present. In the circumstances it would have been more appropriate if one of the gentlemen of those whose names were proposed as candidates for the Council of the Royal College of Veterinary Surgeons at the General Meeting had been called upon to respond to this important toast. I was glad to notice that the toast was honoured very heartily, because it shows that the Royal College, although its headquarters are situated in London, has a warm place in the hearts of its graduates in Ireland. It would certainly be much better for the members of the profession here in Ireland if we had more representatives on the Council. Mr. Howard has told us the disabilities under which a practitioner in Ireland suffers in acting on the Council. Unfortunately, the funds of the College are not in the condition in which we would like them to be. At the present time they are gradually dwindling, and it may soon be that the College will be in a bankrupt condition. But I hope the members of the profession will stand to the College and see it does not go under. It is the only portal by which members can enter the profession in the British Isles, and I hope efforts will be made to preserve it. I was also glad the toast was received so heartily, because I take it as an agreement with the policy of the Council. One of the complaints made is that the Royal College does not take sufficient interest in cases which are brought under their notice for investigation and prosecution. We know that on several occasions this Association has sent some cases of infringement on our domain to the College, but that the College decided that it was unable to take action on account of the absence of sufficient available evidence. To my mind the College could have come to no other conclusion. An adverse decision would do an infinite amount of harm to the profession. Perhaps when the Amendment Bill is passed, which is so necessary for the very existence of the College, the Council will be able to defray the expenses of its members, and thus remove the disabilities attached to the office for an Irish

member, and it will certainly be in a stronger position to maintain the rights of the profession and prevent any infringement on its domain. We trust that time will soon come. In conclusion, on behalf of the Royal College of Veterinary Surgeons, I desire to thank you for the hearty way in which you have received this toast.

Professor O'CONNOR: I think nothing remains for me except to endorse what Professor Craig has said, and to thank you on behalf of the College for having honoured the toast so heartily. (Applause).

The CHAIRMAN proposed the toast of "Our Guests," which was responded to by Mr. Haines and Mr. Whitmore.

Mr. WHITMORE proposed the health of the Profession in Ireland, which was responded to by Mr. Watson and Mr. Bradley.

Mr. PRENTICE: I wish to propose the health of Mr. Reavy, the new President. Personally, Mr. Reavy and I have been old friends for upwards of thirty years, and I have never known anything about him that was not to his credit. He has now entered on his year of office as President of this Association, and I have no doubt that when it terminates we will all be in a position to congratulate him for what he has done. Naturally he states he has a very rough road to travel, seeing that so many eminent men have travelled it before him. But I have no doubt he will follow worthily in their footsteps. Without saying anything further in regard to Mr. Reavy, I ask you to drink his health.

The toast was enthusiastically received.

The PRESIDENT: Gentlemen, I have to thank you for the hearty way in which you have received the toast proposed by Mr. Prentice. I have also to thank you for electing me to the position of President of this Association. It is the highest honour you could have bestowed upon me, and I feel very proud of it. On looking over the roll of Past Presidents, it makes me feel quite nervous to think that I could attain the same good results for the benefit of the profession as they have done; I have a fair amount of cheek, but not enough to think I could ever follow in their footsteps. One thing I can assure you, gentlemen, I have the interest of the profession very deep at heart, and anything I can do to promote its interest, will be to me a labour of love. I hope at the end of my term of office, with the assistance of our worthy Hon. Secretary, Professor O'Connor, and every member of the Association, we will have done something for the betterment of the profession we all love so dearly.

Mr. HENEY proposed the health of "Our Musical Guests," and said they wished to give their hearty thanks to them for having come amongst them that evening. He coupled with the toast the name of Mr. J. D. Cope, and said that owing to an engagement in Dundalk, Mr. W. F. Cope was unable to favour them. He thought they owed their musical guests a deep debt of gratitude. He also coupled with the toast, Mr. Fred Jeffs.

Messrs. Jeffs, J. D. Cope, Morgan and Sanderson responded.

Mr. HENEY proposed the toast of "Our Secretary and Treasurer." In Professor O'Connor they could have no better officer. (Applause). He was heartily interested in the welfare of the Association, and was doing his level best to increase the membership of the Association. That night brought him a great deal of trouble and worry, but he was always able to meet any difficulties. (Applause). He also coupled with the toast their worthy Treasurer. (Applause).

Professor O'CONNOR said he thanked them very heartily indeed for the very kind way in which they had drunk his health. He could assure them it was a very great pleasure to him to do anything he could on behalf of the Association. He considered it a great honour to

be Secretary of the Association. He could not allow the occasion to pass without referring to his able assistant, Mr. Haines, who did the bulk of the hard work. (Applause).

Professor CRAIG was very glad to be able to possess their confidence in looking after the funds of the Association.

In the course of the evening an excellent musical programme was sustained by Messrs. J. R. Morgan, McCann, F. D. Cope, Vine Sanderson, Heney, Wilkinson, Baggot and Fred Jeffs. Mr. Harmer efficiently presided at the pianoforte.

SOUTH DURHAM AND NORTH YORKSHIRE VETERINARY MEDICAL SOCIETY.

[NATIONAL V.M.A.—NORTHERN BRANCH].

A meeting was held in the Imperial Hotel, Darlington, on Friday, March 13th, Mr. J. M. Walker, West Hartlepool, President, in the chair. There were also present: Messrs. D. R. Dudgeon, Sunderland; W. H. Blackburn, South Hetton; W. Awde, Stockton-on-Tees; P. Snaith, Bishop Auckland; T. Wilkinson, Lanchester; W. N. Dobbing, C. G. Hill, F. H. Sanderson and J. H. Taylor, Darlington.

Visitors: Dr. Hern, Darlington; Messrs. A. G. K. Brittain, Guisbro'; and J. W. Rider, Beamish.

It was proposed by Mr. Dobbing, seconded by Mr. Hill and carried, that the minutes of the previous meeting as they appeared in the *Veterinary Record*, be taken as read and confirmed.

Elections and Nominations. Mr. A. G. K. BRITTAIN, M.R.C.V.S., Guisbro', was elected a member of the Association, on the proposition of Mr. Snaith, seconded by the Secretary.

Mr. J. W. RIDER, Beamish S.O., was nominated by Mr. Wilkinson, seconded by Mr. Sanderson.

Mr. R. BARKER, M.R.C.V.S., Stockton-on-Tees, was elected a member, on the proposition of the President, seconded by Mr. Wilkinson.

The PRESIDENT gave Mr. Brittain a hearty welcome to the Association, and expressed the hope that he would attend the meetings.

Mr. BRITTAIN suitably replied.

Correspondence. Apologies regretting their inability to be present were received from Messrs. H. Peele, J. Wilson, P. B. Riley, T. T. Jack, and E. R. Gibson.

The invitation from the Royal Sanitary Institute to attend the Congress of the Institute to be held at Blackpool from July 6th to 11th, which had been left over from the last meeting was considered.

Mr. HILL spoke strongly in favour of the Association sending a delegate, and thought the profession ought to lose no opportunity of attending such gatherings, and taking part in the discussions, and thus showing to the public generally that veterinary surgeons were quite capable of filling appointments in connection with public health work.

Mr. SANDERSON thought the subject ought to be dropped as he did not see what use could be done by attending the Congress. After other members had expressed their views.

Mr. SNAITH proposed that the President be sent as the delegate from the Association, and that his out of pocket expenses be paid; this was seconded by Mr. Dudgeon and carried.

Mr. WALKER said that he would try his best to be present at the Congress, but being single handed he might find it rather difficult to get away.

THE HUNTING FUND.

A circular letter soliciting subscriptions for this fund was read.

Mr. AWDE said that he had known the late William Hunting for many years and thought the splendid work he had done ought to be recognised in some way. He understood that a movement was on foot to try and get a grant from the public service fund for the benefit of the children of Mr. Hunting.

Several members expressed their appreciation of Mr. Hunting's work, and it was generally agreed that any help to the fund would be best left to the individual members of the Association.

GLANDERS—DISCUSSION OF MR. DUDGEON'S PAPER.

Mr. HILL, who moved the adjournment of the discussion at the last meeting, when the paper was read, regretted that he had not had time to read through Mr. Dudgeon's remarks as he had intended doing. Personally, he had not seen many cases of the disease. He noticed that when the temperatures of the pit ponies had been taken just on coming into the stable from work, according to the observations of Messrs. Dudgeon, Gibson and Blackburn they were often 103°, which was interesting. He took particular notice of what Mr. Dudgeon had said with reference to the mallein test, that it was not safe to give an opinion until 36 hours after inoculation. He felt he must not sit down without thanking the essayist for his interesting and practical paper.

Mr. AWDE expressed his regret at not being present at the last meeting when the paper was read. He had not had much experience of the disease, excepting when at College, where he saw a good many cases. With reference to temperature he had usually found it higher than normal in an animal coming in from work. At present he had under treatment a good many cases of influenza and strangles, and in many of these cases the submaxillary glands were enlarged very similar to what they were in glanders. He was using nuclein in these cases with good results.

Mr. J. W. RIDER said as a visitor to the meeting, he should like to say a few words with reference to the subject under discussion. He remembered 18 to 20 years ago, when a young man, having a case of thick leg with ulceration in a pit pony. A dose of physic was given and the result was that the ulceration was more marked and glanders was diagnosed. The whole of the animals were then tested with mallein and many reacted. In his opinion every animal ought to be tested with mallein before going into the pit. In taking the temperature of pit ponies it was an uncommon thing to find many with a sub-normal temperature.

He agreed with Mr. Dudgeon that it was not wise to give an opinion until thirty-six hours had elapsed after inoculation with mallein. He had known cases where the local reaction was only very slight at the end of twenty-four hours, but at the end of thirty-six hours the swelling was well marked. He once had a case which after inoculation had no increase of temperature, but had a local reaction of 6 inches by 4 inches, and the swelling was three or four days before it disappeared. This animal was tested again, but did not react, but it was destroyed, and on post-mortem nodules of the disease were found in the liver and lungs.

Dr. HERN expressed pleasure at being present at the meeting, and had derived much information from what had been said about the disease. He would like to know if the members thought mallein curative in its action.

He had seen three cases of glanders in human beings which were very puzzling at first to him, and the other medical practitioners at the hospital, and they thought of calling in a veterinary surgeon to consult with them. Specimens were sent up to the Clinical Research, and the report was that they were treating glanders. One patient died and two recovered. All three cases occurred in cases of men working in stables.

Mr. RIDER said that mallein was curative, and this had been demonstrated in his experience. He knew of cases which had been tested 12 or 14 times, and after the third or fourth inoculation no reaction was obtained.

Mr. SNAITH said that up to a month or so ago he was under the impression that glanders in man was incurable, but in a recent issue of *The Journal of Comparative Pathology and Therapeutics* a case was recorded of an Indian veterinary surgeon being attacked with and cured of the disease, but he had to undergo terrible sufferings.

Mr. DUDGEON, in replying, said that he was pleased his small effort had interested the members. With reference to temperatures, violent exertion did undoubtedly send the temperature up, but during his examination of pit ponies he frequently found that when quiet in the stable their temperatures were very often sub-normal, 97°, 98°, 99°, for instance.

As Mr. Rider had told them, it was no uncommon thing to get a good local reaction and no increase of temperature. In making post-mortems of glandered animals, he advised all not to confine their attention only to the lungs when looking for lesions, for these often occurred in the liver and spleen, and were absent in the lungs. If you got a local reaction and increase in temperature, you could depend upon lesions being present. As regards testing, you might not get a local reaction at the 9th to the 15th hour, and he had known of some veterinary surgeons considering this long enough to wait before deciding whether an animal was affected or not, but from his experience he would not give a certificate until after the 36th hour.

In reply to Dr. HERN he might say that mallein was curative, and many years ago a French veterinary surgeon continued testing some army horses until they ceased to react. They were then considered cured of the disease, and were placed alongside other horses which had passed the test, and they worked together for years without any recurrence of the disease.

His opinion was, however, that if you had a reacting animal you had better get rid of it. He had read the account in the journal which Mr. Snaith had referred to, and would send the account to Dr. HERN to read. It was most interesting, but the poor fellow suffered much and lost his arm. He thought he got the disease when experimenting with cultivations.

During the testing of some animals recently he had found the temperatures rather high at the time of inoculation, and in those cases one must rely on the local reaction to a great extent. On March 2nd he tested a pony whose temperature was 103.2° at the time of inoculation, and never got much higher. Another had a temperature of 100.6° at time of testing; nine hours after it was 98.4°, and then gradually went up to 104.6°. The local reaction was only slight and not very pronounced. This pony was retested for the local authority a week later, its temperature was 99.8° at the time of inoculation, 104.8° at the 12th hour, and then gradually came down to normal. The local swelling was not typical excepting for the soreness, and he would like to impress the fact that the degree of soreness was very important, even if the swelling was not a big one. During the time this pony was first tested it was off its feed, but not the second time, but it would have to be destroyed. He thought that the testing done by Messrs. Gibson and Blackburn was easily a record for the North of England. He acted for the local authority in the matter. There were only two or three clinical cases presented to them, and the others would never have been discovered had it not been for mallein which had proved itself absolutely reliable.

Mr. HILL proposed a very hearty vote of thanks to Mr. Dudgeon for his valuable paper, and included in that vote of thanks Messrs. Gibson and Blackburn who had so kindly given their experience of the disease.

This was seconded by Mr. Snaith, and carried with acclamation.

CLINICAL CASES.

Mr. SNAITH exhibited a piece of wood 33 inches long, which he had taken from a colt. The animal had galloped along the side of a fence, and this foreign body had entered just near the first rib, passed under the shoulder blade to about the girth, and when he was called to the animal only about one inch was protruding. There was great lameness at first, but this gradually disappeared. What struck him most was the absence of secondary abscesses.

He also exhibited a mammary gland which he had recently taken from a collie bitch. It was cystic in character, which condition in his experience was rare.

He had recently had an interesting case of what looked like a tuberculous growth in the larynx of a cow. This cow suffered from laryngitis for a few days; it received treatment, and got alright so far as one could see. It had a relapse and got worse, and was eventually destroyed, with the result that the growth which he now produced was found in the larynx, and the lymphatic glands in the chest were affected in the same way. The illness came on quite suddenly which made one first think that some foreign body was the cause of the mischief.

Mr. SNAITH also exhibited a calculus taken from the bladder of a horse, which had been destroyed on account of old age. A large calculus was found in the neck of the bladder, and there was a calculus in each kidney. It was interesting to note that these had never caused the horse any trouble during life, and their presence was a surprise when the animal was slaughtered.

FOX TERRIER WITH TWO AMPUTATED HIND LEGS.

Mr. SNAITH showed a photograph of this interesting case. It appeared that this fox terrier bitch two years ago was caught in a reaping machine and both hind legs were cut off below the hocks. The bitch was a great favourite, and was in pup, so was kept, and reared up her offsprings. By that time the stumps had healed over, and as she managed to get about alright her life was spared. When travelling on soft ground she could put the legs down alright, but if the surface was at all rough or stony she carried her legs under her. He did try a pair of false legs, but the bitch was soon at them with her teeth.

LYMPHADENOMA IN A BITCH.

The SECRETARY stated that he had recently had an interesting case of this disease. It occurred in a Scotch terrier, and was brought to him with the history that for some time she had been losing flesh, and seemed listless and would not eat. The bitch was in an emaciated condition and had a pendulous abdomen, and he recommended the owner to have the bitch destroyed. This was done, and a post-mortem made with the result that the enlarged spleen, which he showed them, was found. This organ weighed 1 lb. 12 oz., and was of a particularly bright red colour, the liver was enlarged and showed signs of softening, but only in the spleen were lymphoid growths found.

PFLANZ'S EMBRYOTOME.

It had been arranged to have on view at the meeting this instrument, through the courtesy of Messrs. A. Favre & Co., Newgate Street, London. It was inspected with much interest by the members, but it was generally agreed that it would not be very practicable for the Association to purchase the instrument.

Mr. DUDGEON proposed a vote of thanks to Mr. Walker for his conduct in the chair. This was seconded by Mr. Wilkinson and carried, and the members then had tea together in the hotel.

J. H. TAYLOR, Hon. Sec. & Treas.

VICTORIA VETERINARY BENEVOLENT FUND

The quarterly meeting was held at 10 Red Lion Square, London, on Thursday, April 2nd. There were present: Messrs. Dunstan, Slocock, Garnett, Spicer, Abson, Sumner, Banham, and Shipley. In the unavoidable of the President, Mr. J. Dunstan in the chair.

Apologies for absence were received from Messrs. P. J. Simpson, H. A. MacCormack, F. L. Gooch, and the President (Mr. R. C. Trigger).

The minutes of the last meeting having been adopted, the Secretary presented his report.

SECRETARY'S REPORT.

I have again been through the grants to our old recipients. Unfortunately, I am not able to give every detail I should like, as it is difficult to obtain replies from my correspondents after repeated endeavours. I may say that, acting on the result of the enquiries made, I feel I should recommend the continuation of the grants to Mesdames J—, G—, C—, G—, E—, Y—, B—, B—, P—, H—, T—, M—, and T—.

The grant to M.—W. can now safely be increased to 10s. per week, and that of Mrs. S— to 7s. per week. I will place before you communications from Mr. Amos with reference to H. Horton, and from Mr. Brown, of Invergordon, with reference to Mrs. S—.

A fresh application has been received from Mrs. T—. I have suggested to the Exor that we endeavour to get the daughter, aged 10, into the London Orphan Asylum. I have received the nomination papers, and have sent them on to the Secretary. I shall be very glad if any member of the Fund who can will help to get this girl elected. I would suggest that a grant of 5s. per week be made to the Exor for the maintenance of the child aged two, and that Mrs. T— be informed that we are unable to do more, and that she should endeavour to obtain some situation.

I am presenting a satisfactory increase in our list of members, and sincerely hope that every effort will be made by the members of the Council to attract new members by indicating to them the good work we are doing, especially pointing out the insufficiency of the grants we are able to make. At the present time our grants to 15 recipients amounts to £288 annually.

I have seen the Secretary of the London Orphan Asylum this morning. He informs me that the nomination has been received, and the election will take place in June. I therefore propose to obtain list of subscribers to the Home, and shall hope that every member of the profession who would be willing to help to obtain votes will immediately communicate with me, I shall be only too happy to send full particulars, cards, and a list of subscribers to the Fund. I am strongly advised that individual efforts energetically carried on will undoubtedly be the means of getting the girl elected. This is a matter of very great importance, as owing to her age this is the last and only chance for her election.

It was agreed that the grants to all the old recipients should be continued, and that the grant to Mrs. W— be increased from 5s. per week to 10s. per week, subject to satisfactory replies being received from correspondents.

It was agreed that the grant to Mrs. S— should be increased from 5s. to 7s. per week.

The action of the Secretary in getting the nomination for the election of Hilda Tait to the London Orphan Asylum was confirmed, on the proposal of Mr. Garnett, seconded by Mr. Spicer.

On the proposal of Mr. Sumner, seconded by Mr. Abson, the Secretary was instructed to send a cheque of £5 to Mr. Amos, of Durban, to be applied for the benefit of Hewitt Horton, for some educational purpose which Mr. Amos considers advisable.

The Secretary presented to the Council for consideration the offer of Mr. E. A. West, to present to the Funds of the Society the receipts for the Sunday exhibitions at a cinematograph show owned by him, the London County Council indicating that the receipts from such exhibitions are to be given to some charitable object. The Council viewed with great pleasure the kind offer, and accepted the same, provided the conditions could be carried through.

List of New Subscribers since last quarterly meeting.

	£	s.	d.
Aitchinson, D. A. D., Madras	10	6	
Awde, W., Stockton-on-Tees	10	6	
Broome, J. D., Board of Agric. }	10	6	
			Subscrip.
Fisher, Capt. O. S., A.V.C.	1	0	0
Golledge, H. C. D., Ashford, Kent	10	6	
Goodall, T. B., Christchurch, Hants.	1	1	0
Knott, Capt. G. P., A.V.C.	10	6	
Lambert, R. H., Dublin	1	1	0
Mosley, Capt. H. S., A.V.C.	10	6	
Olver, W. T., Tamworth	1	1	0
Packman, W., Bury	10	6	
Revill, W. C. B., Board of Agriculture	10	6	
Rees-Mogg, Capt. G.,	5	0	
Robertson, J., Stalham	10	6	
West of Scotland V.M.A.	1	1	0
Webb, Capt. E. C.,	1	1	0
Schofield, Capt. W. E.	1	1	0
Fail, Capt. F. W., Khartoum	2	0	0
Carr, Major F. U.,	2	2	0
Spencer, Trevor, Kettering	1	1	0
Bosley, Capt. J. A.,	1	0	0
Bishop, G., Bristol	1	1	0
Boyle, Vincent, Board of Agriculture	10	6	
Bland, A. Whitsea, Coningsby, Lincs.	1	1	0
Hatton, W. J., Richmond, Surrey	10	6	
Mulcahy, T. R., Clonmel, Ireland	1	1	0
Southall, J., Kensington	10	6	
Branford, R., Hissar, India	10	6	
Toope, T. C., Dover, Kent	10	6	
Morgan, E., Faversham (sub. increased)	10	6	
Wootton, Mrs., Maidenhead	10	0	

TENTH INTERNATIONAL VETERINARY CONGRESS.

The following ladies have kindly consented to form the nucleus of a Ladies Committee in connection with the Tenth International Congress:—Mrs. Banham, Mrs. Butler, Mrs. Garnett, Lady M'Fadyean, Mrs. Moore, Mrs. Male, Mrs. Mettam, Mrs. Macqueen, Mrs. Price, Mrs. Shave, Mrs. Shipley, Mrs. Slocock, Lady Stockman, Mrs. Todd, Miss Trigger, Mrs. Villar, Mrs. Willett, Mrs. Woods, Mrs. Wooldridge.

The Organising Committee would be very pleased if the various members would be kind enough to ask their lady friends and relations to serve on the Committee and to forward their names and addresses to the Hon. Secretary, at 10 Red Lion Square.

The Committee desire to point out that they have no means of learning, except through members, of those ladies who are willing to take an interest in the Congress, and it is with a view of getting together as representative a Committee as possible that this appeal is made. Names and addresses should be sent forward at the earliest date possible, as it is desired to print them in the programme of the Congress.

It may be pointed out that the duties in connection with the Ladies' Committee will not be very onerous, it will only be necessary to hold a few meetings of the Committee before the Congress for the purpose of

advising how lady visitors can be most suitably entertained.

During the Congress week it is expected that the services of the members of the Ladies' Committee will be at the disposal of lady visitors to the Congress.

On the proposal of the Veterinary Medical Association of Ireland, the following names have been added to the Organising and Executive Committees of the Congress:—

Organising Committee: Messrs. J. McKenny, Dublin; J. Holland, Athy; F. W. Emery, Dublin; J. J. Rosa, Belfast; D. Hamilton, Ballina; J. J. Vahey, Sligo; P. J. Howard, Ennis.

Executive Committee: Messrs. A. Watson, J. H. Carr, W. H. Wilkinson, Dublin; L. M. Magee, Navan.

DISEASES OF ANIMALS ACTS, 1894 TO 1911.

Return showing the number of Premises on which the existence of TUBERCULOSIS has been notified to the Board of Agriculture and Fisheries during the month of March, 1914.

ENGLAND (Counties) *		ENGLAND (continued) *	
Bedford	3 3	Worcester	5 5
Berks	2 3	York, East R.	4 4
Cambridge	1 1	„ North R.	4 4
Chester	27 29	„ West R.	35 35
Cornwall	8 8		
Cumberland	6 8	WALES.	
Derby	12 12	Anglesey	8 9
Devon	10 11	Carnarvon	1 1
Durham	3 3	Denbigh	7 7
Essex	4 4	Flint	4 4
Gloucester	13 13	Merioneth	1 1
Hants	3 4		
Hertford	4 4	SCOTLAND.	
Huntingdon	3 3	Aberdeen	18 18
Kent	5 5	Argyll	2 2
Lancaster	51 54	Ayr	16 17
Lincoln, Holland	3 3	Banff	4 4
„ Kesteven	5 5	Caithness	2 2
„ Lindsey	7 7	Dumfries	5 5
London	3 5	Elgin or Moray	1 1
Middlesex	2 3	Fife	10 10
Norfolk	6 7	Forfar	6 6
Northampton	4 4	Haddington	3 3
Northumberland	5 5	Inverness	3 3
Notts	6 7	Kincardine	3 4
Oxford	1 1	Kirkcudbright	10 11
Salop	18 19	Lanark	11 12
Somerset	3 3	Midlothian	
Stafford	22 22	(ex City of Edin.):	4 4
Suffolk	4 4	City of Edin.	1 1
Surrey	3 3	Orkney	3 3
Sussex, East	4 4	Perth	9 11
„ West	4 7	Renfrew	7 7
Warwick	6 6	Ross & Cromarty	3 3
Westmoreland	2 2	Wigtown	4 4
Wilts	29 38		
		TOTALS	486 521

* Number of bovine animals suffering from tuberculosis of the udder, tuberculosis with emaciation, or giving tuberculous milk, in respect of which notice of intention to slaughter has been received.

Foot-and-Mouth Disease.

A Thurles message says that an outbreak of foot-and-mouth disease was confirmed on Wednesday evening at Tullaroon, Co. Kilkenny, 18 miles from Thurles.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.		Out-breaks	Slaughtered.*
	(a)		(a)		(b)		(b)		(b)	(a)	
GR. BRITAIN.											
Week ended April 11	13	13			1	1	35	53	1	72	639
Corresponding week in	1913 ...	15	15		1	5	48	103	2	41	573
	1912 ...	18	22		1	9	57	100	3	80	1595
	1911 ...	17	18		6	11			2	40	560
Total for 15 weeks, 1914 ...	278	297	11	74	29	73	1028	1902	139	927	8770
Corresponding period in	1913 ...	200	217		50	170	1127	2373	110	546	6933
	1912 ...	361	410		53	123	1657	3787	147	939	11979
	1911 ...	299	349	1	59	196			287	615	6859

(a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked: York, North Riding 1.
Board of Agriculture and Fisheries, April 14, 1914.

Light-Horse Breeding.

Some £14,000 a year is being spent by the Board of Agriculture under the scheme inaugurated in January, 1911, for the encouragement of light-horse breeding. In the annual report on the administration of the grant, it is stated that the breeding of light horses has been declining for many years. The increase of mechanical traction is to some extent responsible, but there are other causes, notably the fact that farmers have not found the industry a paying one. The main object of the scheme is to revive interest in the industry, and to endeavour to make it a commercial success.

It is recognised that the market for the "misfit" light horse is daily growing smaller. As a business proposition it does not pay to breed "misfits," but only animals for which there is a good demand at a good price. The hunter is a class to which the latter definition applies at the present time, and encouragement is being given to tenant farmers and others to breed horses of this class. Hunter-breeding does not appeal to farmers as a general rule, unless they are good horse-men. There are, nevertheless, it is stated, many farmers who, without being skilled horsemen, are ready to breed light horses if sufficient encouragement and facilities are afforded them, and if they find they can do so without losing money. Substantial premiums are therefore granted for high-class thoroughbred stallions, and for mountain and moorland pony stallions, while assistance is also given for the purpose of encouraging the breeding of the old Welsh cob. So far the progress made has been satisfactory.

The administration of the scheme is carried out by committees which have been set up in every county in England and Wales, and an Advisory Council has been constituted, on which the various public departments and societies concerned are represented, to advise on the working of the scheme and on horse-breeding matters generally. At one of their meetings last year the Standing Committee of the Advisory Council considered a letter from the Development Commissioners suggesting a reduction of the grant for light horse breeding in view of the expenditure to be incurred on the heavy horse industry.

The Committee agreed unanimously that the light horse industry was in far greater need of assistance than that of the heavy horse, and they considered that any reduction in the grant would tend to militate against the success of the scheme, which must be in operation

for at least five years before any useful conclusions as to its value could be arrived at. They therefore passed a resolution declaring that "So far from being able to reduce the expenditure, the experience of the Committee leads them to think that the grant could usefully be increased, and they are unanimous in thinking that it would be most unwise to divert money from light horse breeding to the heavy horse industry.—*Daily Telegraph*."

Surgery of the Heart.

A *Times* correspondent reports that Dr. Alexis Carrel, of the Rockefeller Institute for Medical Research, who received the Nobel Prize in 1912, addressed the American Surgical Association meeting in New York last week, and described a series of successful experimental operations on the valves and orifices of the hearts of dogs. Fifty distinguished European surgeons were present as the guests of the Association.

Dr. Carrel asserted that some day surgeons will be able to cauterise lesions of the valves in human subjects and repair them as easily, or almost as easily, as he himself has been able to do in experimental operations on animals.

The great feature of the operations is their technique. The chest-wall having been opened, the pedicle of the heart is seized by a dozen forceps whose metal jaws are covered with soft rubber. This shuts off all circulation from the heart itself. It is safe, Dr. Carrel declares, thus to arrest the circulation for two and a half minutes. Dr. Carrel makes an incision in the heart wall 1½ in. long over the operative point. He finds this gives room enough within which to work. Several kinds of operations were performed. The sigmoid valves of the aorta were exposed and cauterised. The contracted pulmonary orifice was cut. The sigmoid valve and the pulmonary orifice were exposed and sutured.

Dr. Carrel found that those operations could be performed with but little danger to the life of animals. Only two of quite a large number died, and the deaths were due solely to errors of technique. The operations were performed in October and November, and the animals are now in a normal condition. Dr. Carrel says that it is undoubtedly possible to perform more complicated operations than those already performed under similar conditions.

Personal.

PARTRIDGE—EDGAR.—On the 9th April, at St. Andrews, Ashley Gardens, W., by the Rev. Prebendary Northcote, W. E. Partridge, son of the late J. T. Partridge, Staff Commander, R.N., to Evelyn Alston Edgar, only daughter of the late Henry Edgar, M.R.C.V.S.

Mr. HUGH L. CHAMBERS, F.R.C.V.S., Banbridge, has been elected a member of the Hunters' Improvement and National Light Horse-Breeding Society.

Mr. WILLIAM ROBB, M.R.C.V.S., has been appointed to act as judge of the Light-footed Horses, and **Mr. HUGH FERRIER, M.R.C.V.S.,** of the Dogs, Collies, and Sporting Class at the Dumbartonshire Show at Dumbarton, on Saturday, May 2nd.

At the Easter Vestry for St. Wilfrid's, Hayward's Heath, held on Tuesday evening, the Vicar re-appointed **Mr. H. TAYLOR, F.R.C.V.S.,** as his warden; and later, he announced that the Easter offertories towards the assistant clergy's stipend endowment fund had amounted to £49 7s. 9d., and £11 more was wanted to complete the £250 now almost raised. He was able to announce that the donor of £100 towards the next £250 was **Mr. H. Taylor.**—*Sussex Daily News.*

CRANFORD.—On the 6th April, at Bangalore, India, of enteric fever, Ethel, the dearly-loved wife of Major R. L. Cranford, A.V.D.

SUITABLE APPLICANTS FOR COLONIAL APPOINTMENTS.

Sir,

In your issue of the 28th of Feb., 1914, "East of Suez" makes a very reasonable appeal for better remuneration for Colonial Veterinary Surgeons, and rightly points out that the "gilded pill" of £300-£400 a year does not at all compare favourably with the salaries paid to the medical and other professions in similar positions, and one could, therefore, hardly expect suitable applicants to be very numerous.

I do, however, not see the necessity of dragging Sir Arnold Theiler and young South African Veterinary Surgeons into the matter. I take great exception to the following sentence in his correspondence: "As a former student under Dr. Theiler, in Pretoria, I cannot seriously believe that he intends to look to young South Africans for assistance in research work in South Africa."

Sir Arnold Theiler has already a few young South Africans on his staff, and I don't see why they should not compare favourably both as regards qualifications and capability with any other class of Veterinary Research Officers.

One should almost think that being born and bred in the country, if anything, should better fit them for Research Work on local diseases.

Yours truly,

24 March, 1914.

SOUTH AFRICAN.

SHOULD LATIN BE ABOLISHED AS A COMPULSORY SUBJECT FOR THE PRELIMINARY EXAMINATIONS.

Sir,

In commenting upon the proposed alterations in our Matriculation Syllabus, you remark that the transformation of Latin from a compulsory to an optional subject is "a rather important change, and there is something to be said both for and against it." Most members will agree with this, but I wonder how many will take the trouble to weigh up the arguments for and against. Not many, I am afraid—there are few professional questions which Veterinary Surgeons generally are more disposed to neglect than those which concern the training and examination of students. Nevertheless, I venture to state my views upon an alteration which seems to me a serious one. I believe that if Latin be made an optional subject, and many students take advantage of the change to enter College without, we shall have made a step backwards.

I entered College more than twenty years ago, under the old three years system. Only one language was then required, and Latin was optional. I chose a modern language, and entered College without knowing a word of Latin. Then I was soon plunged into a maze of new and totally unfamiliar words—words which almost seemed to have been arbitrarily invented to perplex the student—and I have not yet forgotten the difficulties that scientific nomenclature, especially anatomical nomenclature, presented to me. Since qualifying I have learned a little Latin, and I am convinced that my College course would have been much easier had I known it then.

The chief argument used against the retention of compulsory Latin is, I think, that modern languages are likely to be much more useful in after life. I grant the truth of this, especially as regards post graduate professional reading. But there are two considerations which weaken the argument, as applied to our case. The first is that our Matriculation Syllabus already requires two languages—if we continue to compel students to take Latin as one, he can still choose a modern one for the other. The second I put in the form of a question. How many Englishmen, who work for their livings in England and seldom or never go abroad, ever try to keep up any language, living or dead, that they may have learned at school? Not many, I fancy!—at thirty-five, few of such Englishmen are as good linguists as they were at seventeen, and some at least have lost whatever linguistic knowledge they ever possessed.

I do not say that these men are idle or incompetent in any way—I simply say that they give up the study of foreign languages. That being so, my argument for the retention of compulsory Latin may almost be summarised as follows. Modern languages may be of great use to the student in after life—if he will keep them up. But Latin will be of use to him in his student days, and we ought to make him learn a little before entering College.

At the same time I think it quite possible that the present requirements in Latin are higher than they need be. I do not think it necessary that a student should be able to answer difficult questions in Syntax, or do much translation of "unseens." But I do think it necessary that he should know the elements of Latin to simplify what would otherwise be the intricacies of scientific nomenclature. I see no reason why, in our proposed "Special" Matriculation, the standard for Latin should not be lower than other subjects—but it ought to remain a compulsory subject.

Yours faithfully, "THREE YEARS GRADUATE"

"BISSULIN"—A CORRECTION.

Dear Sir,

In the short article I wrote you on "Bissulin," in the treatment of contagious abortion, which you published on the 28th March, there is an error in the constituents of the preparation. It should read, 0.25 per cent. of "Sozodol" Mercury, instead of 25 per cent. The latter proportion would be too strong, and would act as an irritant, which "Bissulin" is not.

Yours faithfully, E. C. WINTER, F.R.C.V.S.

Royal Counties V.M.A.

A General Meeting will be held at the Crown Hotel, Faringdon, on Friday, April 24th. The Chair will be taken by the President, Mr. J. C. Coleman, at 2.15. Agenda. Routine business. Appoint delegate to Royal Sanitary Institute Congress. Resolution by Mr. Slocock that the title of the Association be altered to "The Royal Counties' Veterinary Association" by the omission of the word Medical. Proposed formation of a Veterinary Inspectors' Branch of the R.C.V.M.A. Discussion on the "Working of the Tuberculosis Order," opened by Mr. S. H. Slocock. Review of the second Interim Report of the Departmental Committee on Swine Fever, by the Secretary (if time permits). Specimens or cases of interest. Tea will be provided at the kind invitation of Mr. J. H. Parker.

G. P. MALE, Hon. Sec.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1346.

APRIL 25, 1914.

VOL. XXVI.

THE DOGS' PROTECTION BILL.

Last week a Bill designed to abolish scientific experiments upon dogs passed its second reading in the House of Commons. A memorial has been sent in against it, signed by men of the highest standing in all branches of medicine, including Sir John McFadyean and Prof. Charnock Bradley in our own department. Nevertheless, the Bill will probably become law, and in that case the progress of both human and veterinary medicine in this country will be set back. Veterinary medicine will be especially handicapped, and in one important direction it will be brought to a standstill—for this Bill will debar research into the etiology and prevention of distemper. Research work upon distemper is being done in England now, and no disease stands in greater need of research. Distemper distroys more than half the dogs that are born, and in Germany is aptly designated "the dog scourge." That all attempts either to discover its cause or to immunise dogs against it should be prohibited in England by the action of professed dog-lovers is surely one of "life's little ironies."

FOOT-AND-MOUTH DISEASE AT BIRKENHEAD.

On February 26 last three veterinary officers of our Board of Agriculture—Sir Stewart Stockman, Mr. A. M. Munro, and Mr. W. J. Young—and three of the Irish Veterinary Department—Messrs. D. S. Prentice, J. S. Norris, and J. Purdy—held an official conference at Birkenhead with regard to the outbreak of foot-and-mouth disease there earlier in the same month. The result has now appeared in the form of a somewhat unsatisfactory official report.

A complete agreement was not reached. The English representatives were agreed, and signed a report of their own. Mr. Prentice, while in agreement with the major part of this, yet differed so far in some respects that he prepared an independent report, which was also signed by his two colleagues. These two reports, with some minutes of the proceedings, make up the whole publication, and, as the minutes are incomplete and only partially verbatim, they can scarcely assist in deciding between the two conflicting opinions.

It will be remembered that on January 30th and February 1st foot-and-mouth disease was discovered at two centres in the Irish County of Kildare. The English authorities at once prohibited the landing of Irish animals otherwise than for slaughter within the landing place. Nearly a fortnight later disease began to appear at Birkenhead in animals which had landed from Ireland and were awaiting slaughter. Fourteen cargoes in all were implicated. Naturally it was inferred at first that infection had

come from Ireland, but subsequent developments cast a doubt on this view.

A quotation from the minutes summarises the problem dealt with at the Conference. "That foot-and-mouth disease has existed at Birkenhead is not disputed. All the evidence at first available pointed to the probability that the infection had been introduced by animals carried from Ireland. Since, however, no fresh disease centre has come to light in Ireland, the question has arisen as to whether it is possible that the infection can have been introduced into the lairages at Birkenhead by some other means or from some other source."

The net result of the Conference was to lessen the suspicion of infection having come from Ireland; and the real point of disagreement was the question whether any suspicion could be said to remain. The English representatives consider that "it is not possible to exclude the view that infection may have been introduced from Ireland"—but they do not affirm the view as a probability.

Mr. Prentice, on the other hand, claims that "the evidence clearly shows that the disease was not brought from Ireland to Birkenhead." It was agreed that none of the animals were found diseased upon landing; but, if they all became infected at Birkenhead, some of the periods of incubation were certainly unusually short.

Mr. Prentice explains this as arising from the debilitating effects of the journey and the virulent type of the outbreaks—for at Birkenhead the disease assumed a virulent form. Mr. Prentice emphasises two other points. The most careful search amongst animals in Ireland which had been in contact with those afterwards found affected at Birkenhead failed to unearth any disease amongst them. Further, though other animals, many from the same parts of Ireland as the Birkenhead cargoes, were shipped at the time to half-a-dozen other British ports, disease appeared at no port except Birkenhead.

Upon the whole the conference was disappointing. As an illustration of the practical complexities of animal epidemiology, the report makes really interesting reading. Incidentally, too, it elucidated a chain of circumstantial evidence which renders it almost certain that the outbreak of disease discovered at Redditch on February 22nd was due to infection at Birkenhead. But as an enquiry into how Birkenhead itself became infected, the results were absolutely negative. Perhaps a longer conference might have been more valuable, one day was a very short time to deal with the mass of complicated details that had to be considered, and further discussion might at least have produced a united report.

ABSTRACTS FROM FOREIGN JOURNALS

A NEW EQUINE VERMINOUS ENTERITIS.

Cuillé, Marotel, and Roquet have published (*Revue Gén de Méd. Vét.*) the following observation. The subject was a foal, coming from a breeding establishment which had already repeatedly lost animals from the same disease.

This foal had been brought up upon the pasture, and showed every appearance of health. Suddenly, however, he was attacked by very severe colicky pains, which lasted twenty-four hours. From that time, although the appetite was maintained, the animal fell away in condition and became so feeble that, having lain down, he was unable to rise again without help. When brought to his feet again, he neighed, played, and ate like a normal foal.

The mucous membranes were very pale, and the conjunctival slightly œdematous. The temperature was 99.5° F. The fæces were fairly well moulded, but badly digested. They contained numerous intact oat-grains and coarse *débris* of fodder. When examined microscopically, they were found to contain numerous eggs of strongylides—twenty to thirty in each preparation.

The appetite soon became capricious. An œdema then appeared, which was localised at first to the four limbs, and then extended progressively upwards. The scrotum, the sheath, and the inferior aspect of the abdomen became infiltrated in their turn, and the foal assumed the aspect of an anasarctous subject. This condition persisted for ten days; and then a profuse and fetid diarrhœa appeared, and caused death in forty-eight hours.

Post-mortem lesions were found upon the whole extent of the intestine. The mucous membrane, when freed from alimentary materials, appeared riddled by a multitude of small dark cysts of from half a millimetre to two millimetres (= 1.50 inch to 1.12 inch) in diameter. They were scattered irregularly upon the mucous membrane, and were very closely approximated together—twenty-five to thirty could be counted in a square centimetre (= 4.10 inch). The larger ones were translucent, rounded or oval in form, slightly projecting, and limited by a blackish-grey ring.

Scrapings from these cysts were found to contain larvæ of nematodes. The wall of the intestine was thick and firm, and had not changed its colour, with the exception of showing some dark red ecchymoses.

Histological examination of the cysts showed that they were situated in the interior of the mucous membrane. They were oval or polyhedral in form, and surrounded by the adenoid tissue of the mucous membrane. Their walls, which were thin, were constituted by closely packed connective tissue fibres. In the interior of the cysts the parasites could be seen, cut in all directions by the section, and the details of their structure could thus be studied. One specially notable feature of the parasites was the abundant pigmentary granulations they contained.

Embryos of the parasites were found situated in the thickness of the adenoid tissue, *without* cystic formation. Some of these embryos had crossed the muscularis mucosæ and were found in the submucous tissue. The submucous tissue was sclerosed, and infiltrated with leucocytes. The blood-vessels were chronically inflamed, which the authors attribute to the irritant action of the neighbouring parasites or of their toxins.

In the *lumen* of the intestine, numerous adult worms (*cylicostomes*) were found, together with larvæ identical with those found in the thickness of the mucous membrane. The authors explain the method of infection and the course of the disease as follows: The worms arrive in the intestine as free embryos, probably by means of impure drinking water taken in humid marshy pastures.

These embryos penetrate into the intestinal mucous membrane, where they develop, thereby causing the formation of cystic cavities. The cysts finally open into the intestine, where the parasites undergo a further metamorphosis into perfect *cylicostomes*. Copulation takes place in the intestine. The females soon lay their eggs, which are then discharged by the host with the fæces, and which, if they fall into humid surroundings, produce embryos which may, by means of water, be re-introduced into the intestines of other foals.

This observation shows the gravity and importance of a new verminous enteritis. It is especially to be noted that the principal lesions are due to the larvæ situated in the thickness of the mucous membrane, which is thus profoundly altered.

As a preventive measure, it is advisable to drain pastures which are too humid or marshy, in order to hinder the development of the embryos. The authors also recommend dressing the land with lime and sulphate of iron.—(*Annales de Méd. Vét.*)

[No details of the structure or dimensions of the parasite are given in this note].

RESEARCHES UPON CANINE TUBERCULOSIS.

Hendrik Schornagel, of Utrecht, has recently communicated his investigations upon this subject in an inaugural address at Bern. In the course of 568 post-mortem examinations of dogs carried out in the Institute of Pathological anatomy at the Utrecht Veterinary School, eleven cases of tuberculosis were found. This represents a proportion of 1.9 per cent.

The organs which were found affected, stated in the order of frequency, were the mesenteric lymphatic glands, lungs, bronchial lymphatic glands, pleura, liver, mediastinal lymphatic glands, neck, spleen, and (in one case each) the peritoneum, mesentery, pancreas, and kidneys. Generalised chronic tuberculosis was present in three cases, and generalised acute miliary tuberculosis in one case. In eight cases the tuberculosis caused either death or such severe illness that the dogs were destroyed as incurable.

The author finds that tuberculosis of the dog has no great similarity in its pathological anatomy with that of the other domestic mammals, except the cat. Histologically, also, the tuberculous nature

of the disease was difficult to recognise in most cases. Giant cells were not found in a single case, and calcification was only observed once. The diagnosis of tuberculosis was established by the discovery of tubercle bacilli and the positive results of the inoculation of guinea-pigs.

Of eight strains of tubercle bacilli which were cultivated, two belonged to the bovine type and four to the human type, while the other two represented transition forms. Consequently, a high percentage of the dogs were infected by human tubercle bacilli. A tuberculous dog therefore represents a by no means negligible danger to human health.—(*Berliner Tier. Woch.*)

W. R. C.

TENTH INTERNATIONAL VETERINARY CONGRESS, LONDON, Aug. 3—8, 1914.

I have received the following donations and payments to the Organising Fund of the Congress since you published my list dated December 27th, 1913, in *The Veterinary Record* of Jan. 3rd, 1914.

My attention has been drawn to the following errors in previous lists of donations, viz. :—

The Veterinary Record, Dec. 7th, 1912. Southern Counties V.M.S. £31 10s. promised, should read £10 10s. promised and £10 10s. paid, and Young, J., should read Young, W. J.

Nov. 29th, 1913, delete Packman, W., £5 5s., he is included in the present list and, Hodgman, J. A., should read £2 2s. paid.

Jan. 3rd, 1914, for Dunlop, D., read Dunlop, J.

I am still some £60 short of the minimum sum to be raised by the profession, and I trust that this will soon be made good. I will thank all those who have promised donations and have not yet forwarded them to kindly send them as soon as possible, and so save me the trouble of writing them personally.

FRANK W. GARNETT, Hon. Treas.

Dalegarth, Windermere.

April 7th.

Those names marked with an * denotes persons and societies other than veterinary.

Paid. £ s. d.	Promised. £ s. d.	Promised £ s. d.
3 3 0 Jolliffe, Capt. C. H. H.	3 3 0	
1 1 0 Armfield, J. M.	1 1 0	
10 6 Cronyn, W. B.	10 6	
3 3 0 Imrie, D.	3 3 0	
1 1 0 Ripley, J. H.	1 1 0	
Falshaw, P. S. (Singapore)	5 0 0	
1 1 0 Hill, S. E.	1 1 0	
10 0 Eady, L. F.	10 0	
1 1 0 Walpole, H.	1 1 0	
1 1 0 Pollock, J. W.	1 1 0	
1 1 0 Lloyd, L. W. Wynn		
1 1 0 Sampson, S. E.		
5 0 0 Shave, Prof. E. S.		
2 2 0 Morphew, H.		
2 2 0 Westgate, H. G.		
2 0 0 Holroyd, H.		
1 1 0 * Bullock, F.		
2 2 0 Shaw, Wm. F.	2 2 0	
1 1 0 Newsom, G.	1 1 0	
2 2 0 Hollings, G. P.	2 2 0	
2 2 0 {Saunders, R. G. } {Motton, S. J. }	Guarant. £2 2 2 0	

Paid. £ s. d.	Promised. £ s. d.
1 1 0 Hatch, J.	1 1 0
3 6 8 Jones, T. Eaton	
5 5 0 Smart, W. W.	5 5 0
Conner, Jas.	1 1 0
10 6 Baker, E. W.	
3 3 0 Share-Jones, Prof. J. T.	3 3 0
2 2 0 Andrews, W. H. (Transvaal)	2 2 0
2 2 0 Robertson, J. B.	2 2 0
1 1 0 Edie, H.	1 1 0
1 1 0 * Romney Marsh Sheep Breed. Ass.	1 1 0
10 0 0 * Clydesdale Horse Society	10 0 0
1 1 0 Young, S.	1 1 0
3 3 0 Dunlop, J. B.	3 3 0
10 10 0 Reeks, H. C.	
25 0 0 * Highland and Agric. Society	25 0 0
2 2 0 Weighton, A.	2 2 0
2 2 0 Humphrey, C. J.	2 2 0
1 1 0 Rees, J. F.	
1 1 0 Soulsby, J.	1 1 0
10 6 Spurgeon, C. H.	10 6
2 2 0 Young, J. Stow	2 2 0
3 3 0 Moore, J. W. T.	3 3 0
1 1 0 Ingersoll, F. H.	1 1 0
3 0 0 Jones, H. L. (Beira)	3 0 0
3 3 0 Dawson, J.	3 3 0
2 2 0 Broome, J. D.	2 2 0
1 1 0 Wilson, A. C., Capt.	1 1 0
2 2 0 Edwards, E. P.	2 2 0
1 1 0 Matthews, G. T.	1 1 0
1 1 0 Powell, W. J.	1 1 0
2 2 0 Carter, F. P.	2 2 0
25 0 0 Stephenson, C.	
3 3 0 Brown, J. (Invergordon)	
1 1 0 Bailey, R. J.	1 1 0
2 2 0 Nye, S. H.	2 2 0
1 1 0 Budge, G. T. F.	1 1 0
1 1 0 Kerr, Finlay	1 1 0
2 2 0 Penhale, R. E. L.	
1 1 0 Knowles, R. H.	1 1 0
2 2 0 Bell, Jas. G.	2 2 0
3 3 0 Howe, Geo.	
1 1 0 Cleveland, J.	
5 0 0 * Middleton, Lord	5 0 0
1 1 0 McGhee, Thos.	1 1 0
1 1 0 Varney, J.	1 1 0
1 1 0 Taylor, F. B. O.	1 1 0
1 1 0 Aggio, C.	1 1 0
5 5 0 Gibbings, G. H. 2nd don.	5 5 0
1 1 0 Weston, W. P.	1 1 0
1 1 0 Blake, J. V.	1 1 0
2 0 0 Reilly, Lt.-Col. J.	2 0 0
1 0 0 Head, H. S.	1 0 0
1 1 0 Williams, R. D.	1 1 0
10 6 Whicher, A.	10 6
2 0 0 Garden, G. (Nyasaland)	2 0 0
2 2 0 Beddard, E.	
2 2 0 Howard, C. W.	2 2 0
10 6 Murison, R. E.	10 6
1 1 0 O'Dea, A. F.	1 1 0
3 3 0 Thompson, Hy. (Aspatria)	3 3 0
2 0 0 Peacey, E.	
1 1 0 Borthwick, J.	1 1 0
1 1 0 Walker, J. S. & Son	1 1 0
1 1 0 Branford, R. (Punjab)	1 1 0
5 5 0 Litt, W. E.	
1 1 0 Awde, Wm.	1 1 0
1 1 0 Towne, A. H.	1 1 0
1 1 0 Jelbart, G. H.	1 1 0
4 0 0 Anderson, Wm. (Keith)	
{Hoadley, C. C. }	
{Head, A. S. }	1 1 0
1 1 0 Hall, Ed.	1 1 0
2 0 0 Holmes, Maj. J. D. (India)	2 0 0

Paid.	Promised.	Promised.	Paid.	Promised.	Promised.
1 1 0	Lainé, E. J.	1 1 0	3 3 0	Richardson, J. M.	3 3 0
1 1 0	* Farmers' Club		10 6	Beckett, A. J.	10 6
10 0 0	* Shire Horse Society	10 0 0	10 6	Dykes, J. R.	10 6
1 1 0	Conchie, J. W.	1 1 0	10 0 0	Lawson, Alex.	
50 0 0	Sheather, C., & Sons			Hamilton, D.	5 5 0
1 1 0	Kirkpatrick, A. C., (Cape Town)	1 1 0	Central Vety. Society (per H. A. MacCormack, Esq.):		
2 2 0	Schofield, W. G.	2 2 0	2 2 0	Philp, R. A.	
50 0 0	Sewell, A. J.		5 5 0	Howard, P. S.	
1 1 0	Collihole, R. S., £1 ls. guarantee	1 1 0	3 3 0	Almond, N.	
15 15 0	Parker, T. M.		2 2 0	King, W. S.	2 2 0
10 0 0	Jones, Rd.	10 0 0	2 2 0	Gostling, A. E.	2 2 0
2 2 0	Broad, Arth.	2 2 0	10 10 0	Sloccock, S. H.	
5 5 0	* National Pony Society		5 5 0	Willett, J.	
1 1 0	Anderton, J. W.	1 1 0	10 10 0	Hobday, F. T. G.	
3 3 0	Elphick, G., & Sons	3 3 0	5 5 0	Willis, Wm.	
5 0 0	* Linlithgow, Marquis of	5 0 0	2 2 0	Samson, F. G.	
1 1 0	Richardson, W. L.	1 1 0	5 5 0	Woodger, Jos.	
1 11 6	Moody, J. F. B.		1 1 0	Smith, P. W. D.	1 1 0
5 0 0	Ascott, Wm.		2 2 0	Davis, W. R.	2 2 0
2 2 0	Fletcher, W. J.	2 2 0	1 1 0	Stanley, F. W.	1 1 0
3 3 0	Roberts, G. A. (Cairo)	3 3 0	1 1 0	Lowe, G. C.	1 1 0
1 1 0	O'Boyle, H. (Queensland)	1 1 0	5 0 0	Tailby, M.	5 0 0
1 1 0	Connell, J. A.	1 1 0	1 1 0	Eaglesham, R.	1 1 0
5 5 0	Jackson, J. R.	5 5 0		Martin, G. D.	1 1 0
5 5 0	* Crewe, Earl of		2 2 0	Whitlamsmith, H. H.	2 2 0
1 0 0	Cattell, J. G.	1 0 0	5 5 0	McIntosh, J. W.	
2 2 0	Duncan, A. C.	2 2 0	5 5 0	Foreman, R. J.	
3 3 0	Cade, W. J.	3 3 0			18 13 0
10 6	Mason, H. E. T.	10 6	Yorkshire Vety. Society (per J. Clarkson, Esq.):		
1 1 0	Edwards, W. T.	1 1 0	5 5 0	Yorkshire Vety. Society	
5 0 0	Smith, Genl. F.		6 0 0	Crawford, Wm.	
10 6	McConnell, H.	10 6	2 2 0	Ellison, A.	
3 3 0	Wynne, J. H.		2 2 0	Whitehead, Geo.	
1 1 0	Hide, H. H.	1 1 0	4 4 0	{ Carter, G. W.	
5 5 0	* Hackney Horse Society	5 5 0		{ Holland, H. M.	
3 3 0	Nelder, W. B.	3 3 0	1 1 0	Deighton, P.	
1 1 0	Golledge, H. C. D.	1 1 0		Mason, A. W.	1 1 0
26 5 0	* Royal Agricultural Society	26 5 0		Clarkson, J. (2nd don.)	5 0 0
5 5 0	Hunters Improvement „	5 5 0		Abson, P.	1 1 0
	Bowlas, T.	1 1 0	2 2 0	Tainsh, J. W.	
21 0 0	* Shorthorn Society	21 0 0			7 2 0
5 5 0	* Stewart, Sir H. S.	5 5 0	Royal Counties V.S. (per G. P. Male, Esq.):		
1 1 0	Mayall, G.	1 1 0	5 5 0	Male, G. P.	
10 0 0	Liverpool University V.S. (per A. Walker, Esq.)		3 3 0	Coleman, J. C.	
1 1 0	Panton, A.	1 1 0	1 1 0	Broad, W. T.	1 1 0
1 0 0	Millar, Augt. (Cairo)	1 0 0	3 10 0	Simpson, P. J.	
2 0 0	Rabagliati, D. S. (Egypt)	2 0 0			1 1 0
2 0 0	Hatchinson, F. (Natal)	2 0 0	Lincolnshire V.S. (per T. Hicks, Esq.):		
New Zealand Vety. Surgeons (per H. A. Reid, Esq.):			3 3 0	Rudkin, T. A.	
1 1 0	Brodie, A. M.	1 1 0	2 2 0	Hicks, Thos.	
1 0 0	Blake, T. A.	1 0 0	3 3 0	Lennox, Alex.	
2 2 0	Collins, W. T.	2 2 0	3 3 0	Lalor, A. D.	
1 1 0	Crossley, F.	1 1 0	3 9 0	Gooch, F. L.	
1 1 0	Edgar, P. M.	1 1 0	3 3 0	Bindloss, T. B.	
1 1 0	Howard, E. C.	1 1 0	5 5 0	Lincolnshire V.S.	5 5 0
1 0 0	Lyons, J.	1 0 0	10 10 0	Hartley, C., Sr. & Jr.	10 10 0
10 6	Primmer, J. H.	10 6	3 3 0	Holmes, J. T.	
1 1 0	Taylor, A.	1 1 0	1 1 0	Masterman, S. G.	1 1 0
2 2 6	Reid, H. A.	2 2 6			16 16 0
2 2 0	Wilkinson, W. H.		West of Scotland V.S. (per G. W. Weir, Esq.):		
1 1 0	Howie, A. M. (S. Africa)	1 1 0	2 2 0	Anderson, R. G.	2 2 0
1 1 3	Bell, P.	1 1 3	2 2 0	Reynard, J. G.	2 2 0
10 6	Holland, J.	10 6	1 1 0	Macintyre, J. F.	
10 0	" Anonymous "	10 0	1 1 0	Douglas, Alex.	
1 1 0	Hines, A. J.	1 1 0	1 1 0	Hamilton, T. B.	
10 0	Crowhurst, J. J.	10 0	1 1 0	Brown, D.	
10 6	McBryde, J.	10 6			4 4 0
1 1 0	Cave, Prof. T. W.	1 1 0			

Paid.	Promised.	Promised.
Lancashire V.S. (per J. W. Brittlebank, Esq.):		
10 0 0 Hopkin, T.	10 0 0	
Smith, C. S.	2 0 0	
Cockburn, W. L.	3 3 0	
Holroyd, J.	1 1 0	
Edwards, F. G.	2 2 0	
Elam, C. W.	2 2 0	
3 3 0 Locke, G. H.		
2 2 0 Wolstenholme, J. B.	2 2 0	
2 2 0 Hughes & Son		
1 1 0 Noar, Wm.	1 1 0	
Taylor, W. A.	5 5 0	
10 10 0 Packman, W.	10 10 0	
		39 6 0
Midland Counties V.S. (per H. J. Dawes, Esq.):		
2 2 0 Clifford, C. J.		
1 11 6 Dayns, C. E.		
1 1 0 Secker, B. L.	1 1 0	
5 5 0 Renfrew, A.	5 5 0	
2 2 0 Burchinal, J. J.		
5 5 0 Spencer, T. F.		
10 6 Murray, R.		
3 3 0 Reynolds, H. S.	3 3 0	
		9 9 0
Eastern Counties V.S. (per S. Smith, Esq., Jun.):		
1 1 0 Little, W. L.		
1 1 0 Jack, D. S.		
1 1 0 Auger, T. E.		
1 1 0 McTurk, A.		
	Total	£410 4 3

CENTRAL VETERINARY SOCIETY [NATIONAL V.M.A. SOUTHERN BRANCH.]

The monthly general meeting was held at 10 Red Lion Square, W.C., on Thursday, April 2nd, Prof. G. H. Wooldridge, President, in the chair. The following Fellows signed the attendance book: Messrs. W. R. Davis, M. G. Byerley, J. F. Macdonald, H. D. Jones, J. B. Buxton, H. J. Parkin, G. H. Livesey, N. Almond, Capt. G. Rees-Mogg, S. H. Slocock, J. W. McIntosh, W. R. Clarke, R. Eaglesham, Prof. E. B. Reynolds, L. Auchterlonie, R. Bryden, J. Willett, E. L. Stroud, J. C. Coleman, F. G. Samson, W. S. King, W. Perryman, W. Willis, F. W. Willett, W. N. Thompson, G. Gordon, and Hugh A. MacCormack, hon. sec. Visitors: T. C. Toope and T. A. Huband.

On the proposition of Mr. McIntosh, seconded by Mr. Samson, the minutes of the last meeting were taken as read and confirmed.

Correspondence. The SECRETARY reported the receipt of a letter from Lieut.-Col. E. Taylor, A.V.C., regretting his inability to be present, and also announced the receipt of a circular letter from the conjoint veterinary associations (Ireland) on the subject of the direct representation of Ireland on the R.C.V.S., and asking for the support of the Society for Mr. Howard.

The PRESIDENT said it was the custom of the Society not to ask its Fellows to vote for any particular candidate but to leave the matter to the free choice of the Fellows, and therefore the letter should lie on the table.

This procedure was agreed to.

MORBID SPECIMENS.

Mr. J. WILLETT exhibited a specimen from the bowel of a dun pony that had been working in Regents Park, drawing the roller and mower and tip cart. On Feb. 4th it was brought to him in a debilitated state suffering from obstinate constipation. He found the pulse

very feeble, the mucous membrane sclerotic, and faeces in small pellets. The teeth were very ragged, and he came to the conclusion there was liver trouble. The teeth were attended to, and a purge was given, followed by stimulants; the pony began to pick up towards the end of February, and he ordered it for work again on the 28th. On March 26th the pony was down, reported unable to rise, but when seen by his assistant the animal was standing and showing symptoms of colic with no acute pain but general uneasiness. The pulse was feeble. The conjunctiva showed no inflammatory symptoms at all. Towards the evening the pain became more intense, and enemata were given without result. There was no straining, but opiates had very little effect in lessening the pain. Prognosis very unfavourable. In the morning the animal was shot, and a post-mortem was made by Mr. Jackson, who was acting as locum, and it revealed several very large patches of discoloration of the small bowel which, when opened, had enormous ulcers with green centres. The bowel was fairly full, and on cutting into it a large intussusception was found, the small bowel passing through the ileo-caecal valve about 3ft. in length, on the end of which was a tumour-like enlargement about the size of an orange. It was only in the latter part of the time that the pony sat upon its haunches like a dog. The specimen had been shown to Professor Wooldridge at the College, and also to Sir John McFadyen, who said the condition was tuberculosis of the bowel. One would have thought that with so many ulcers there would have been diarrhoea, but during the whole month the evacuations were small pellets about the size of walnuts. He had a theory that the disease might have been caused by human infection, because the animal was always eating the grass in the Park, which was the promenade of patients from a number of nursing homes in the neighbourhood, and their sputum may have been on the grass. The pony was thin, but picked up markedly towards the end of the month of February.

The PRESIDENT said the tuberculous ulcers were of enormous size, some being three inches in diameter, and there were tuberculous masses in the intestinal wall. The tumour-like enlargement at the end rather suggested in appearance a glans penis of a horse; it was the intussusception of the ileum through the ileo-caecal valve.

Mr. LIVESLEY exhibited the penis of a large fox-terrier which for the last eighteen months had been suffering from intermittent hæmorrhage from the sheath. It occurred sometimes once in a week or two, and sometimes the dog would go as long as two months. When the attack occurred blood slowly dribbled from the mouth of the sheath, and sometimes increased to a flow. Latterly the hæmorrhages had increased in severity and in number, so that the dog sometimes had as many as five in twenty-four hours. The dog would stagger about and show all signs consequent upon loss of blood, but his power of recuperation was extraordinary. For some hours before the attack the dog would be uneasy and for hours together would not lie still. On the upper side of the penis he found a small round hole, which had all the appearance of being a ruptured vein. He inquired from the owner if there was any erection to account for engorgement and consequent hæmorrhage from rupture, but during the whole time he had never seemed to have had an erection, and the penis never seemed to be enlarged. The owner was anxious to keep the dog going on as he was, provided there was no danger to his life, but some months later he complained it was becoming very difficult to manage the dog in the house owing to the blood. At this period he distinctly felt lumps in the body of the penis itself close by the small hole where the hæmorrhage arose, and it seemed to him it might possibly be a malignant growth, because the inguinal glands were enlarged. Prof. Wooldridge had offered to examine the growth under the microscope.

Mr. McINTOSH exhibited part of the right innominate bone of a van mare destroyed as a result of an injury. Fractures of the innominate bone were not uncommon in London horses, but there were some peculiarities about the present case which he regarded as unusual. Notwithstanding the extensive and complicated nature of the fracture, the lameness at the onset was very slight. He was unable to diagnose fracture for a considerable time. The animal was in foal, and two days after the lameness made its appearance, she picked her foal, and the following day was exceedingly lame, and it was only through that he was able to discover a fracture. Whether efforts to pass the foetus had anything to do with displacing the bones he could not say; he thought it probable. The fracture extended through the acetabulum in three directions. There was no history of a fall or any injury likely to bring about such a condition. Was it possible that pregnancy has anything to do with predisposing the bones to fracture?

The PRESIDENT asked in what position the affected limb was held.

Mr. McINTOSH said the limb appeared shortened, and was suspended with the toe on the ground. The mare was six years old.

The PRESIDENT did not think the pregnancy had anything to do with it. One symptom he had seen in horses where there had been a fracture involving the acetabulum was marked adduction, the affected limb being held across the front of the sound limb, sometimes resting on the ground with the tip of the toe on the opposite side of the middle line. This was constant and very marked indeed in the dog, in which animal the fracture was most frequently seen.

Mr. McINTOSH said he noticed no abduction or adduction in the present case.

The PRESIDENT said the specimen of the penis of the dog was of considerable interest, and he would try and determine what was the cause of the hæmorrhage. He did not think it would turn out to be a malignant growth. The enlarged glands might have been due to an infection of the wound. It was more likely to be due to an injury to the os penis or corpus cavernosum. When he was first spoken to about the case he suggested that a remedy might be found in preventing erection by castration *plus* large doses of bromide, until the wound healed. The suggestion, however, was not put to the test.

Mr. J. C. COLEMAN exhibited specimens of parasites found in the horse's feces, and asked whether they could be identified. Were they the *S. Tetracanthus*? For the past four years he had had a client who bred hunters and cart-horses, and at the age of three years one of them became very emaciated, with staring coat, and very weak. Although each year for the past four or five years parasitic infection of the bowels was suspected, none have been observed until this year. At present he was treating the cases with ferri sulph. and gentian; occasionally there was diarrhoea. It always attacked horses at three years old, and the present case was the fourth he had had in five years. They became worse and worse, and were ultimately sold for a small price. Last year a hunter was sold for £15 which could have been sold for £100 at two years old.

Capt. REES-MOGG showed the third cervical vertebra of a horse which fell but got up and walked home a distance of two miles. The horse lived for a week, and was able to eat all right if the food was lifted to him, but could not lower his head. A week later he fell down with symptoms of fracture and died within twelve or fourteen hours, and then a bad fracture of the vertebra was discovered.

The PRESIDENT thought the case would have done admirably well with Mr. Price's neck splint exhibited some time ago to the Society.

Prof. ALMOND said he had a case of recurrent hæmorrhage in a bull-dog, but could not pursue it as the owner moved out of the neighbourhood. The hæmorrhages existed for a considerable time, and the animal came into the infirmary on two different occasions. He did not appear to suffer much pain or much trouble.

Mr. LIVESEY said he could bear out what the President had said as to the carriage of a lame leg in a fracture of the acetabulum in the dog; the leg was held fairly straight, the toe extended, and the leg adducted, and carried in front of the sound foot.

Mr. MACDONALD said that in the Dick Veterinary College there was a specimen of innominate bone similar to that shown. The case recovered and the animal worked for several years.

Mr. DAVIES suggested that Mr. Coleman should try plenty of milk for his case. He had found milk and cod-liver oil very good in such cases on farms in Cambridgeshire, where the disease is extremely rife. The ordinary anthelmintics, including Thymol he had found without effect.

Prof. ALMOND said there was no doubt about the identity of the parasite; it was a *sclerostoma tetracanthum*. He had recently had a case in a four-year-old mare in which the parasite was first observed about July, and she continued to pass parasites for about twelve months. They were not all of the red colour shown by Mr. Coleman, the greater number being quite white.

Mr. COLEMAN said everyone of the parasites in his case was red.

Prof. ALMOND said that if put into water the red colour generally disappeared. While he was away on a visit the animal was treated by another practitioner with carbolic acid, half an ounce in a pint of linseed oil, but that set up a great deal of pain. On his return he put the mare on carbonate of iron, and encouraged her to eat. She was kept warm, and given about two drams of carbonate of iron every night and morning with her food, and was now quite well.

Mr. HUBAND said Mr. MacIntosh's specimen was an exceedingly interesting one as showing the amount of fracture which might occur without seriously affecting the animal before displacement. He had seen many cases of fracture of different portions of the innominate bone with evidence of recovery. With regard to the fracture of the cervical vertebra, it reminded him of a horse which ran away and came in contact with a stone pillar. He was called to the horse as it lay in the road, but could not make out much the matter except that it was stunned. He sent along a harmless draught by the yardman and raising the head to give the draught, displacement occurred, and the animal gave a few kicks and died. The crowd naturally thought the draught had killed the horse and began to laugh, but the yardman turned round and said: "You need not laugh, that is just what Mr. Huband said, if it does not cure him it will kill him."

Mr. PERRYMAN said in all cases of fracture there was constant hæmorrhage between the fracture, and a gradual widening of the broken portions of the bone by the blood clot. That was exemplified very often in pelvic injury. In many cases it was impossible in the first stages to diagnose definitely where the fracture was, and he thought the same thing applied to the cervical vertebrae. He had known cases of pelvic injury last a few weeks without any displacement until a sudden wrench separated the bones. He had a case last year in which the bone was broken from the symphysis into the acetabulum, and the animal held the leg forward and pivoted round on the other leg. In milder cases, where the acetabulum was not much involved, it was possible to have recovery.

The PRESIDENT said the parasites shown by Mr. Coleman appeared to be *Sclerostoma tetracanthum* and the symptoms described were quite commonly met with, causing in most instances suspicion of tuberculosis. Treatment was not always successful even under the best circumstances. Horses would recover without any treatment, while others would gradually get worse and die under any method of treatment. The cause of death appeared to be due to a secretion by the parasites causing hæmolysis, and death was due to exhaustion. If a horse was not already up from pasture he should be got up and given a supply of concentrated highly nutritious foods, rather on the dry side than laxative, and after he had begun to eat his food he should be given such vermicides as Arsenic, Antim., Pot. tart., and Sulphate of iron. Thymol was strongly recommended by some practitioners. He had been told by a country practitioner that by some mischance a case of his was given half a pint of petroleum oil, such as was used for lighting, and the horse began to improve materially. On a number of subsequent occasions he had repeated the line of treatment and had had better success from that than from any other. The chief difficulty in the disease was the fact that the worms were in the large intestines and frequently buried in the wall, and therefore almost beyond the reach of medicines before they were excessively diluted. A half-pint of petroleum given after fasting seemed rather a drastic method, but it should be remembered that the fluid would run straight away through into the cæcum, and would affect the worms more directly than any other line of treatment.

Mr. HUBAND said he had known cases of parasitic infection where the regular employment of rock salt had had a marvellously good effect in improving the conditions.

Mr. COLEMAN said the owner of the horses was a great believer in rock salt, and kept it in all the fields. The horse had shown no decline in condition.

Mr. TOOPE said many years ago he had a horse constantly suffering from flatulent colic, and on one occasion it was so enormously distended that he punctured the intestines with a small trochar and injected a considerable quantity of antiseptic fluid, terebene. To his astonishment the following morning the excreta was practically full of worms, and he came to the conclusion that terebene was the most effective vermifuge he had ever seen given in that way. They were all round worms, strongyles, of various descriptions. On other occasions he adopted the same line of treatment, but not with the same success.

Mr. SLOCOCK believed it was acknowledged that the *tetracanthus* existed for many years in a brood mare, and once she had it she had it for a lifetime.

Mr. COLEMAN said the mares were all different; one was a hunter, and three were colts. One of them was bought and not bred on the place.

The PRESIDENT thought there was no doubt the infection came from the land.

Election of Fellow.—Mr. JOHN BROWNLESS, M.R.C.V.S., of Kensington, was unanimously elected a Fellow.

Royal Sanitary Institute Congress. On the motion of Mr. J. Willett, seconded by Mr. E. Lionel Stroud, the President was nominated as delegate to the R.S.I. Congress at Blackpool, from July 6th to 11th.

Election to Council of National Veterinary Medical Association.—The PRESIDENT said the Society was entitled to six representatives on the Council of the National V.M.A.

Prof. ALMOND proposed that the present representatives should be re-elected:—Messrs. McIntosh, Foreman, Slocock, Davis, J. Willett, and Prof. Macqueen.

Mr. COLEMAN seconded the motion, which was carried unanimously.

ON THE INFLUENCE OF AN INJECTION OF MALLEIN ON THE SERUM DIAGNOSIS OF GLANDERS.

By J. BASIL BUXTON, F.R.C.V.S., D.V.H.

(This appeared in our issue of April 11th.)

Before reading his paper Mr. Buxton explained that when any foreign organisms were introduced into an animal various antibodies were produced, some of great importance and others not so important. Agglutinating antibodies were perhaps some of the most important and had the peculiar property of linking up with some substance or substances in the bacterial cells and so causing clumping of those organisms.

The complement binding antibodies were probably of the nature of bacteriolysins, at any rate they possessed a similar composition. Bacteriolysins were composed of two essential parts, an amboceptor and complement.

The amboceptor, as its name implied, was a link, and possessed the power of joining up on one hand with the antigen, in this case the specific bacterial cells themselves, and on the other with the complement, and while the complement had little or no affinity for the specific antigen it had a very marked affinity for the amboceptor. Similarly while the amboceptor was able to link up with the antigen bacteriolysis did not occur except in the presence of complement. When such a union took place, namely complement, amboceptor, and antigen, bacteriolysis occurred. While the amboceptor was a thermostable body, *i.e.* resisted heating for 1 hour at 55° C., the complement was destroyed under similar conditions, and in the complement fixation test advantage was taken of this fact. The natural complement which existed in an unknown amount in the specific serum to be treated was destroyed, and replaced by a known amount of complement of known strength. The amount of amboceptor contained in the specific immune serum which was required to complete the system, *i.e.* link up with the known amount of complement and antigen, was spoken of as the complement binding titre of that serum.

DISCUSSION.

Prof. ALMOND, while thanking Mr. Buxton for his paper, confessed it was beyond his ability to criticise it. He had some knowledge from current literature of the various bodies produced in the animal economy, and there was no doubt that they were of the very greatest possible interest to those who were able to follow them and utilise them, but they appeared to be beyond the ability of the ordinary practitioner. It seemed to require a well appointed laboratory to be able to test the influence of the method, and evidently it was not intended for employment by ordinary practitioners; it did, however, show the direction in which medical research was going, and as such was of extreme interest.

Mr. PERRYMAN asked whether the injection of mallein had any effect on the toxins of other diseases, such as the pneumococcus and streptococcus—any retarding action in the development of them. Would an injection of mallein into an animal suffering from strangles or pneumonia reduce the temperature? On more than one occasion he had injected an animal having a high temperature with a dose of mallein, and he found the temperature came down in a remarkable manner. In testing a stud for glanders it was remarkable to see how some aged and debilitated animals would begin to pick up after an injection. This was the experience of many veterinary surgeons he believed. Also he wished to know whether the injection of mallein was curative in the case of an animal already affected, and preventive when injected into an animal not affected.

Mr. DAVIS said he had gathered from *The Veterinary Record* that there was an opinion abroad that not much reliability was to be placed on the use of mallein as a diagnostic agent in the detection of glanders. He had used a good many thousand doses himself, and had come to the conclusion years ago that a great deal depended on the quality of the mallein. During the South African war every animal, horses and mules, had to be tested, and with some of the American malleins the usual reaction did not take place, but there was the formation of a doughy swelling, often developing later into a necrotic mass. He was quite satisfied that proper mallein was as absolutely certain in diagnosing glanders as tuberculin was in diagnosing tuberculosis. With regard to mallein reducing temperature, at one time he had great faith in a certain remedy for the reduction of temperature, antifebrin. He had a contract for attending tramway horses, and in passing the stables one night he was asked by the Manager to look at a horse, and found it had a temperature of near 107°. The Manager, however, did not wish him to worry about it that night, and when he went in the morning he found the temperature reduced to 101°. If he had given the animal antifebrin on the previous night he should have been under the impression that it had brought down the temperature. He suggested to Mr. Perryman that if he had given an injection of *aqua pura* he might have found the temperature down in the morning just the same.

Mr. PERRYMAN said he referred to cases of persistent high temperature, when an animal had had a temperature for a fortnight. He had at present a case where the temperature had been up ten days, and he could not get it down nor find complications to account for it. He should probably give that animal a dose.

The PRESIDENT said Mr. Perryman might let the Society know the result at the next meeting.

Prof. ALMOND asked Mr. Davis at what period the necrotic masses occurred as the result of an injection of so-called mallein.

Mr. DAVIS said several days after inoculation. There was a swelling on the next day, but it became necrotic after several days.

Prof. ALMOND asked whether the swelling showed the ordinary characteristics that followed the injection of mallein in an unaffected horse.

Mr. DAVIS said no. With the mallein obtained from the Royal College afterwards no such cases occurred.

Mr. MCINTOSH said he had used many thousand doses of mallein, and he agreed with Mr. Perryman that it was capable of reducing a persistent high temperature. Another remarkable fact was that a horse which had been previously unthrifty, when dosed with mallein suddenly improved in condition and began to thrive. Apparently it altered the condition of the blood, or in some other way helped the animal to build itself up.

Mr. J. WILLETT also agreed that mallein reduced temperature. Some fifteen years ago he had a stud of 80 brewery horses which were submitted to the mallein test, and 22 of them reacted. A Professor from the College suggested that mallein was a curative, and the animals were put into a stable by themselves and had to work together, and he had to test them regularly each month over a considerable period. There were several unthrifty horses amongst them, and after several doses they began to improve in condition, and out of 18, only five were killed, and the others put back into stock again.

The PRESIDENT said there were certain practical points in connection with Mr. Buxton's paper which did not appear to have come home to most of the members. They were mainly bound up with the fact that although practitioners liked to consider mallein as near perfection as possible they could not blind themselves to the fact that it was not perfection and not always applicable; it

was a very useful agent, and the number of fallacies met with in connection with its use were fortunately comparatively few. But the limitations of the substance had been recognised on the Continent to a greater extent than in this country, so much so that in some foreign countries, Hungary in particular, diagnosis was limited to the agglutination test, which had been found to be fraught with fewer fallacies than the mallein test, and the use of mallein as a diagnostic agent had been made illegal because it interferes with the agglutination test.

So far as he was aware there had not been sufficient attention drawn to the comparative advantages of the complement fixation test and the agglutination test previously, and Mr. Buxton's work might assist materially in that direction, because if Mr. Buxton's work was supported by other investigators the necessity for rendering the use of mallein illegal would no longer operate, for instead of putting the horse through the agglutination test, the complement test could be applied in cases of doubtful results from the mallein test. The mallein test was the easiest to apply, and the most satisfactory to the practitioner, as he could carry it through without having to send it to a laboratory. An interesting feature mentioned in the paper was that the blood again returned to normal in from four to five weeks after an injection of mallein, so that the agglutination test could be applied after that time. That, however, was a long time in connection with an outbreak of glanders. He would like to know if Mr. Buxton's horses were all being used for the production of various immune sera, for although it was regarded that the antibodies were absolutely specific, yet he thought a good deal remained to be done in that connection, and that had been generally pretty clearly shown in Mr. Buxton's own results.

Was it definitely proved beyond any dispute that the process of immunising animals against other organisms did not interfere in any way with the production of antibodies when mallein was injected? In Mr. Buxton's cases the production of antibodies causing agglutination was fairly constant, yet there were two specific cases where antibodies were produced, and the complement fixation test was interfered with. One, he believed, was the gonococcus, and the other the meningococcus. These were two cases where horses being immunised against two sets of organisms had the reaction interfered with, and he should like to know whether it was beyond all doubt that such a thing might not occur in other instances. He did not think many practitioners used mallein as a febrifuge, and he did not think they intended to. In some cases which he had suspected of being affected with glanders and had submitted to the test, although he had had no reaction either in temperature or local swelling, the horses that had been previously off their feed and unthrifty had suddenly taken to eating well and had begun to thrive. He remembered calling Mr. Hunting's attention to similar cases and asking his opinion, but all he could get from him was a shake of the head and, "I should regard such cases as suspicious and test again." That was a very sound dictum. He hoped Mr. Buxton would proceed with his work and bring it to still further fruition.

REPLY.

Mr. BUXTON, in reply, said he had hoped that some of the members would have come across cases suspected of being glanders in which they had obtained no reaction to mallein, and where they possibly had had the agglutination test carried out subsequent to the mallein test. He did not know that mallein could be used as a febrifuge, but apparently it had produced some very startling results. With regard to Prof. Wooldridge's remarks, no one had ever suggested that an animal possessing antibodies produced by other organisms

would not give to some extent reactions to the bacillus mallei, and that was borne out in the case of two instances he had quoted, the horse that was being injected with dead meningococcus and the horse injected with dead gonococcus. In some cases of young horses which had recently recovered from an infection with *Streptococcus equi*, he frequently found they got a typical reaction to mallein if tested within a week or two of their recovery. What was more disconcerting, such horses would give a comparatively high agglutinating titre, so that one was not able to say whether the horse was free from glanders or not. Fortunately, however, the complement fixation test furnished a much more definite knowledge. Some cases were on record in which the body cells had been sensitised by streptococcus equi, and the result of the mallein test had been a local swelling, sometimes accompanied by a rise of temperature, but the swelling had not followed the course generally observed in a glandered animal. With regard to the horses being immunised, he would point out these were used more or less as controls. Of

the 29 horses he had recorded every horse was normal. With reference to the question of the curative effects of mallein and the prophylactic effects, one would have every reason to suppose that were mallein given in sufficiently large doses it might possibly exert some curative or prophylactic effect. He did not mean to suggest that 5 or even 10 c.c. was going to have a prophylactic effect, as the doses would have to be much larger and given over a fairly long period.

On the proposition of Mr. Samson, seconded by Mr. E. Lionel Stroud, a hearty vote of thanks was accorded to the gentlemen who had brought forward post-mortem specimens.

A hearty vote of thanks was also accorded to Mr. Buxton, on the motion of Mr. J. Willett, seconded by Mr. Davis.

The meeting then adjourned.

HUGH A. MACCORMACK, Hon. Sec.

DISEASES OF ANIMALS ACTS 1894 to 1911, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.		Out-breaks	Slaughtered.*
	(a)		(a)		(b)		(b)		(b)	(a)	
IRELAND. Week ended April 11	...	...	2	10	...	...	3	...	9	10	21
Corresponding Week in	1913 ...	...	...	...	...	...	...	...	10	...	13
	1912 ...	...	...	...	...	...	...	...	8	10	31
	1911 ...	...	...	...	...	1	...	...	4	3	39
Total for 15 weeks, 1914	1	2	65	601	...	...	37	...	305	84	353
Corresponding period in	1913 ...	...	...	...	...	...	75	...	230	40	245
	1912 ...	1	1	...	...	...	27	...	221	74	575
	1911 ...	3	3	...	...	1	36	...	213	41	723

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, April 14, 1914

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

SOUTHERN COUNTIES VETERINARY SOCIETY.

[NATIONAL V.M.A. SOUTHERN BRANCH.]

The thirty-third annual general meeting was held at the Royal College of Veterinary Surgeons, Red Lion Square, London, on Thursday, the 26th March, when the retiring President, Mr. G. H. Livesey, of Hove, took the chair, and the others who signed the attendance book included Professor G. H. Wooldridge, London; and Messrs. J. T. Angwin, Arundel; A. H. Archer, Southsea; Walter Burt, junr., Brighton; Gerald W. Bloxsome, Hove; E. Whitley Baker, Wimborne; F. G. Samson, Mitcham; and P. J. Simpson, Maidenhead; together with Mr. J. Basil Buxton, and Mr. H. A. MacCormack, London.

Apologies and expressions of regret at inability to attend were announced from Messrs. P. Carter, W. Coveney, E. R. Harding, H. Leeney, J. B. Martin, J. C. Mumby, A. H. Lockwood, C. Pack, C. H. Spurgeon, H. Smith, R. A. Thrall, J. Alex. Todd, D. Wyllie, and F. T. Walder.

On the proposition of Mr. P. J. Simpson, seconded by Mr. Angwin, the minutes of the last meeting as published in *The Veterinary Record* were taken as read

and confirmed, and on the motion of Mr. Walter Burt, seconded by Mr. Bloxsome, the rules of the Society were also taken as read.

The HON. SEC. (Mr. A. H. Archer) submitted a communication from Mr. J. H. Carter, the President of the Royal College, enclosing a form of petition to the Treasury for a civil pension for the children of the late Mr. William Hunting.

The PRESIDENT, after the text of this petition had been read to the members, remarked that he would move from the chair that it be signed by himself on behalf of the Society. Prof. Wooldridge seconded, and the meeting agreed.

Mr. E. WHITLEY BAKER remarked that while they were on this subject he should like to move as Treasurer that they should also vote the sum of £5 5s. from their funds to the Hunting Memorial Fund. When they remembered what the late Mr. Hunting did for the profession, and for their own Society in particular, he thought it would be a graceful and fitting act for them to make some little grant to that Fund.

Mr. BURT: Have you any idea what form this memorial is likely to take.

Mr. BAKER replied that he had been given to understand that the money, or at all events the greater part of it, would be invested on behalf of the family.

Mr. ANGWIN seconded, and the proposition to vote the five guineas was unanimously agreed to.

Prof. WOOLDRIDGE, replying to a question by Mr. Samson, explained that no definite steps could be taken until it was ascertained approximately how much money would be collected, but there was no intention of devoting the whole of the money to a stone memorial.

Mr. BLOXSOME asked when the fund was likely to be closed.

Prof. WOOLDRIDGE replied that it would certainly not be closed until they saw whether this petition for a pension was granted. The allocation of the fund would also depend very largely on whether they succeeded in getting a pension or not, because if the pension was obtained the capital, or the bulk of it, might be invested for the benefit of the family and then to revert to the Royal College of Veterinary Surgeons. Nothing definite had, however, been decided yet.

Mr. BLOXSOME remarked that personally he had a great objection to subscribing to permanent memorials that were going to take the form of a piece of stone, and he believed many other members of their profession had the same objection, but if they knew that their money was going to serve some useful purpose he believed there were many who would only be too pleased to subscribe.

The PRESIDENT remarked that he personally had refrained from subscribing until he knew what form the memorial was to take, because if it was going to take the form of a stone, or some small scholarship, he confessed he should not subscribe very heartily, much as he esteemed the late Mr. Hunting, but if the money was going to be spent for the welfare of the family he would gladly give, and he was sure many others would as well.

Mr. SIMPSON asked if they could not embody this opinion in their resolution.

Mr. BLOXSOME: I am afraid it would be rather difficult to do that, but in sending the money we could express the hope that it will be utilised for the benefit of the family.

Mr. E. WHITLEY BAKER remarked that he was quite at one with the suggestion. Personally he was as much opposed as any of them to wasting money in eulogising the dead in such a form as the erection of some monument, but he certainly felt that they ought in consideration of what the late Mr. Hunting did for their Society, to vote something, and if they authorised him to do so he would forward the cheque with a stipulation that it should not be put to any other use than for the benefit of the family.

The PRESIDENT: I am afraid, gentlemen, we have already voted the money, and if you want to make any condition I must ask for another resolution.

Mr. SIMPSON: I will move that in sending the cheque the Treasurer be instructed to write saying that it is the wish of our Society that the money shall be used preferably for the benefit of the family and not for a permanent memorial. Mr. Angwin seconded, and it was unanimously agreed to.

The HON. SEC. mentioned that he had received another letter from Mr. Garnett asking for further contributions towards the International Veterinary Congress Fund.

The PRESIDENT: You will probably remember that our Treasurer was authorised to send them a first contribution of ten guineas, I believe, and that has been done.

Prof. WOOLDRIDGE: I take it that this letter refers more to private contributions.

The PRESIDENT: Very likely, but I thought you ought to know what we have done as a Society.

Mr. E. WHITLEY BAKER thought he ought to mention the fact that he had had an application for a further donation from the Society, and on referring to the

minutes he found that when they voted the ten guineas the remark was made that if in the future they were able, they might send them a further donation. He should therefore like the feeling of that meeting as to what they wished him to do, but perhaps they would like first to hear his financial statement. [Agreed].

The next business was to consider the advisability of appointing a delegate to the annual Congress of the Royal Sanitary Institute at Blackpool this summer.

Mr. ANGWIN in view of the other demands which they appeared to have on their funds thought they could spend their money to much better advantage in other ways, and he therefore proposed that they do not appoint a delegate. Mr. W. Burt seconded.

Prof. WOOLDRIDGE remarked that there was a lot to be said from Mr. Angwin's point of view, no doubt, but there was also a good deal to be said on the other side. It was said that they could get the reports even if they did not send delegates, but if every Society adopted that course there would be no reports to receive. Seeing that there was likely to be a considerable demand on the funds of the Society, however, he would suggest that this matter also stand over until they had the Treasurer's report.

Mr. SIMPSON proposed that this be done, and this was seconded by Mr. Samson, and carried.

SECRETARY'S REPORT.

During the past year, in addition to the annual meeting last March, three meetings have been held, at Portsmouth, Brighton and London. The attendances at these meetings has been fourteen, nine, thirteen, and eleven respectively. With the exception of the last meeting, which was held in Cattle Show week in London, these numbers are about up to the average. At the latter meeting, which was followed by the customary dinner, exclusive of the veterinary inspectors who were specially invited to attend in order to form an Inspectors Branch of the Society, only seven members attended the business meeting, and six the dinner. The Society's tooth instruments have been much appreciated, as shown by their requisition on several occasions, and they are now in my possession at Southsea. There are now about seventy-eight names appearing on our list as members, but I am bound to say that some of these should, in my opinion, be no longer regarded as members. Five new members have been elected during the year, but on the other hand several have fallen out or resigned. Mr. Todd, our late hon. secretary, formally resigned on September 25th, at which time I took over the duties of hon. sec. During the past year the Society has suffered a great loss by the death of two of our most esteemed members. Needless to say I refer to the late Mr. R. Roberts and the late Mr. W. Hunting. An important feature of the past year's proceedings has been the efforts made to establish an Inspectors branch of this Society, and from which some good financially should arise, especially in connection with the fees for the examination and inspection of stock, and attendances at markets, etc.

On the proposition of Prof. Wooldridge, seconded by Mr. Angwin, the report was adopted.

TREASURER'S STATEMENT.

Mr. E. WHITLEY BAKER, in submitting his statement, remarked that their income had been £29 3s. 6d., and their expenditure £25 11s. 9½d., leaving them with an increased balance of £21 17s. 7d. He wanted to point out to them, however, that their expenditure was now exceeding their income. During the past year they had received £29, but in the previous year they only had £13 come in. Since he got out his balance-sheet he had received a further two guineas, but they had that day voted five guineas towards the Hunting Memorial Fund, and he had outstanding liabilities amounting to about

£6, the latter including £3 for their subscription to the National. I mention these facts to show you that it will be necessary for us to husband our resources very carefully in future.

Mr. ANGWIN proposed that the balance-sheet, as presented, be passed, and this was seconded by Mr. W. Burt, and agreed to.

Mr. SIMPSON asked if the accounts could be printed and sent out with the agenda another year.

Mr. BAKER replied that he would bear that suggestion in mind.

The PRESIDENT next asked for the views of the members as to making a further donation to the International Veterinary Congress Fund, adding that at the present time it was a question whether their finances warranted them in sending anything more.

Mr. BLOXSOME proposed that they make no further contribution as a Society, and this was agreed to, the President pointing out that there was nothing to prevent members subscribing privately if they choose.

ROYAL SANITARY INSTITUTE CONGRESS.

The question of sending a delegate to the Sanitary Institute Congress was next dealt with.

Mr. ANGWIN proposed that they subscribe a guinea as usual, but that unless there was some member who would be able to attend at his own expense they do not go to the expense of sending any delegate.

Prof. WOOLDRIDGE seconded this, and the same was carried.

Mr. SIMPSON hoped some one would come forward and attend the Congress, as he happened to know that these meetings did afford veterinary surgeons a splendid opportunity to make their influence felt for the benefit of the profession with a certain class of people who were in some cases rather opposed to them. At the last Congress at Exeter the best attended meetings and the best discussions took place in connection with the Veterinary Section, and although it might not come back to them individually they were doing the profession, and indirectly themselves, a great deal of good by attending such gatherings as these.

Mr. ARCHER endorsed all that Mr. Simpson had said as to the value of having delegates at these Congresses.

Prof. WOOLDRIDGE also expressed the hope that they would be able to persuade some one to attend and represent the Society.

At a subsequent stage of the proceedings the President incidentally raised the question of the amount of the allowance that had been claimed by Mr. Archer, their delegate, last year, and

Mr. ARCHER explained that although it was quite true he would have attended the Congress at Exeter in any case, as he was reading a paper there, he accepted the position of delegate on the understanding that it was on the same terms as the year before, when four guineas were kindly voted towards his expenses, and he believed he made the remark that he would be pleased to represent them "on the same conditions as last year." He would also be pleased to attend the coming conference at Blackpool as delegate for the Society if they liked, and in that case he would leave it to the Society as to whether they paid him anything or not. These conditions were agreed to.

The PRESIDENT brought forward the matter of the Reception Fund for the International Veterinary Congress. They had voted ten guineas to this Fund, and he understood when he took the chair twelve months ago that the President and Secretary of each Society had been appointed members of the general Organising Committee of the Congress. He could only say, however, that since he had been in the chair he had not received a single notice from the Secretary of any meeting, but on the other hand he had received three begging letters asking him for a subscription. It did not

seem to him that this was treating the Society with very much courtesy, and seeing that they had gone to the extent of subscribing ten guineas to the funds he thought the least they could have had in return was some little voice on the Committee. He did not know whether Mr. Archer, as Secretary, had received invitations to attend any meetings. To him, personally, it did not matter, but as President of the Society he thought the least they could have done was to have sent a notice.

Then, again, with regard to the Congress itself, it seemed to him that they were hardly treating the profession with the courtesy it deserved, in that although they had repeatedly asked for subscriptions they had not as yet told them what was going to be done. From what he had heard there seemed to be an opinion in many quarters that this Congress was being run by a certain number of people who were interested in such things, rather than for the benefit of the profession. It was a pity such an impression should have got abroad, and he thought it was due to the fact that they had not taken the Societies sufficiently into their confidence.

Prof. WOOLDRIDGE asked whether the fact that Mr. Livesey was elected their President had been officially notified to the Secretary.

The PRESIDENT: I don't know about that, but I know the changes were notified in *The Record* at the time, and that the necessary corrections have since been made in the list of the Societies and their officers which are published in the professional papers every month.

Mr. ARCHER: I can only say that I have received one invitation to any meeting, and that was forwarded on to me by Mr. Todd, and reached me too late for me to attend if I had wanted to. It was also a personal invitation to myself as Secretary.

Prof. WOOLDRIDGE: That rather seems to suggest that they have not been notified of the change in our officers.

ELECTION OF OFFICERS.

Mr. ANGWIN desired to propose the re-election of their present President, Mr. Livesey. (Hear, hear.) He had had a very broken year of office so far, owing to the change of their secretaries, and he was sure he would do still better during the coming year than he had done hitherto, and that it would be the wish of them all that he would consent to take on the office for another year. (Hear, hear.)

Mr. W. BURT seconded, and the proposition was at once put and carried by acclamation.

The PRESIDENT, in acknowledging the compliment, thanked them very much indeed for the honour they had again conferred upon him. He had no idea they were going to ask him to stand for a second year, but he should be very glad to take it on if he could in any way help on the Society. He hoped they would have a more successful and prosperous year than they had had last, and if he could do anything to that end he should be only too pleased. He thought they would be able to get some good papers, because that was what they wanted—short papers and demonstrations that would interest everybody. He could only repeat that he would do all he could to help forward the interests of the Society, and that he again thanked them for electing him once more to the chair. (Applause.)

Vice-Presidents. On the proposition of the President, seconded by Prof. Wooldridge, Mr. F. G. SAMSON was elected a Vice-president in the place of the late Mr. William Hunting, and the other three Vice-presidents, Mr. C. ROBERTS, Mr. S. H. SLOCOCK, and Mr. ANGWIN, were re-appointed on the proposition of Mr. Caudwell, seconded by Prof. Wooldridge.

Committee. Messrs. J. B. DIER, C. PACK, R. WALL, and J. T. ANGWIN were also chosen as the Executive

Committee for the coming year on the motion of Mr. Burt, seconded by Mr. Simpson.

Hon. Treas.: Hon. Sec. Mr. Angwin next proposed the re-election of Mr. E. WHITLEY BAKER as hon. treasurer, and Mr. A. H. ARCHER, as hon. secretary, and this was seconded by Mr. Simpson, and also carried unanimously.

Nomination. Mr. H. A. McCORMACK was nominated for membership by the President, seconded by Mr. Angwin.

Next Meeting. It was also decided on the proposition of Mr. Angwin, seconded by Mr. Samson, that the next meeting be held at Worthing on the last Wednesday in June.

SOME REMARKS CONCERNING THE ETIOLOGY OF CAT INFLUENZA, WITH MICROSCOPICAL DEMONSTRATIONS.

By J. BASIL BUXTON, Wellcome Physiological Research Laboratories, London.

At a recent meeting of veterinary surgeons your President was kind enough to ask me to say a few words concerning the etiology of cat influenza. At that time I did not contemplate publishing anything concerning my work in that direction, but since that meeting circumstances arose which suggested that an early publication in the form of a preliminary report was advisable. The remarks which I made have probably been seen by most of you in *The Veterinary Record*, and while I do not feel at present in a position to add to them to any considerable extent, a brief résumé at this junction may not be out of place. There seems to be a good deal of conflicting opinion in so far as my clinical observations were concerned, for while I have been the grateful recipient of a number of letters from practitioners whose daily work brings them in contact with an ever increasing number of cases resembling the disease under discussion, and who agree with the clinical diagnosis *in toto*, several eminent clinicians apparently do not recognise such a complaint at cat influenza. That there should be this difference of opinion is of advantage from the point of view of this meeting, since it should tend to produce a lively discussion on the subject which is invaluable both to you and to me. It is, however, after all quite immaterial what name one may choose to give the complaint, since I simply drew a mental picture of the chain of symptoms and make reference to an organism which I believe to be intimately associated with the causation of those symptoms. The incubation period of the disease is apparently from about ten days to a fortnight in the case of a natural infection, while in experimental animals it may be somewhat shorter. The symptoms may be presented either as a simple nasal and conjunctival catarrh in which the most obvious feature is a periodic sneezing, accompanied by photophobia and excessive lachrymation, without, at this stage, any discharge, to terminate in the case of resistant animals in resolution, or in those whose defences are not so good to be followed by a muco-purulent discharge from the eyes and nose, and an extension of the infection resulting in a pharyngitis and laryngitis. This state of affairs may persist for several days to terminate in the recovery of the animal if its strength can meanwhile be maintained, or the infection may extend, involve the pulmonary parenchyma, and cause the death of the patient from an acute croupous pneumonia. In those cases in which the third and most fatal phase is seen, the two previously mentioned stages are invariably its precursors. In a few cases the disease has been seen to run an extremely rapid course, embracing all three phases, and death has resulted in from four to five days of the on-

set of the symptoms. Such rapidly fatal cases are, however, not common, and I have only seen them in kittens of the more delicate breeds. In all stages of the disease food of any kind is refused, and the utmost difficulty is experienced in maintaining the animal's strength. As I have said before, it is very uncommon to find animals suffering from this disease affected with diarrhoea; on the contrary, there is a marked tendency towards constipation. On post-mortem examination the lesions are found to be confined to the respiratory tract. There is marked inflammation of the pharynx, larynx, and trachea, and when the lungs are affected there is a typical croupous pneumonia. I was able to isolate the organism under discussion in pure culture from the smaller bronchi, and sometimes from the trachea in almost every case in which the disease was seen in its early stages. In the pneumonia cases I was invariably able to recover the organism from the lungs, and in advanced cases from the heart blood. The agglutinating and complement building titres of the blood of affected animals has, so far as I have been able to ascertain, always been much higher than that of the blood of apparently normal controls, but much work remains to be done in that connection. As I stated in my preliminary report, the organism is a short bacillus varying in length from 1.5mm. to 2.5mm. by about 3mm. in breadth. It does not show progressive motility, is an aerobe, and does not stain by Gram's method. On many solid media old cultures show a yellow colouration, most marked at the edges and gradually extending towards the centre. In the sugar media (lactose, glucose, maltose, saccharose, raffinose, arabinose, mannite, dulcitol, adonite, dextrin, leavulose, and galactose), a slight alkalinity is produced in 24 hours at 37 centigrade, and in 48 hours there is a marked alkaline reaction. It has been found possible to transmit the disease experimentally to healthy cats, even by an injection into the nostrils of a saline suspension of the organism.

I have here an agglutination test, and a complement fixation test put up with the blood of a cat suffering from influenza, and from a normal control.

The agglutinating titre of the diseased cat is in this case 1 in 400, while that of the control is 1 in 20.

The complement fixation titre is '02, while that of the healthy cat is *nil*.

I have also some slides of the organism under discussion. One is stained with Kühne's blue, one with Loeffler's blue, and one with dilute fuchsin.

I had hoped to be able to show you a kitten suffering from this disease, but it unfortunately developed pneumonia yesterday, and died this morning.

DISCUSSION.

The PRESIDENT: Before we open the discussion, I should like to ask you if you have ever compared this with cat distemper, and have you ever found this organism in cat distemper.

Mr. BUXTON replied that he did some work relating to cat distemper some time back, but was not able to come to a satisfactory conclusion. Circumstances compelled him to leave it over for a while, but he might say that in cases of cat distemper he had not found this organism. He could also say it was not an ordinary inhabitant of the respiratory passages of the cat.

Prof. WOOLDRIDGE, who was then invited by the President to open the discussion, remarked that he had been very interested indeed to hear Mr. Buxton's description of this condition and his investigations concerning it, but he must admit that in some respects he still had misgivings. In the first place he seemed to have started with the preconceived notion that there was a cat influenza as distinct from feline distemper. Personally, although he had had pass through his hands a large number of cats affected with a catarrhal fever

which might take various forms and manifestations, he had never yet been able to satisfy himself that clinically they could be differentiated into these two separate and distinct diseases. Mr. Buxton told them that this organism which appeared to have some definite connection with the disease in question could not be found in cases of cat distemper, but he should like to know how many true cases of feline distemper he had been able to examine, since it seemed to him from the remarks he had made the investigations he had made in connection with cat distemper were concluded before he undertook this present work. At all events he gathered that the work had not been going on simultaneously, and the comparisons did not appear to have been easily made except from memory. For his own part he was not convinced that it was a separate or distinct disease. He thought the better plan would be to call it contagious catarrhal fever in the cat. If this did prove to be a separate and distinct disease and this organism should be proved to be the cause, then he said they were on the high road to some still more important discoveries in regard to preventive inoculations or curative serums. He should also like to hear Mr. Buxton's views with regard to the possibility of the transmission of this disease. He thought there were some forms of catarrh that cause temporary inconvenience in the human subject for instance, but which did not cause the pronounced nasal catarrh they got in the human being. He desired to congratulate Mr. Buxton very heartily on the valuable work he was doing in this direction, and he hoped he would be able to show them definitely by experiments and clinical investigation that there were two distinct diseases, that he had got the means of differentiating them, and that he would be able to show them how they could clinically distinguish them, but in the meantime he was not prepared to admit that there were two diseases.

Mr. ANGWIN, called upon by the President, did not think he had much to say on this subject of cat distemper, except that he had listened to the remarks of the essayist with great interest, and had been delighted with the specimens he had shown them that afternoon; and he only hoped that at some future date they might be able to hear more of the subject. He also hoped his theory would turn out to be correct, and that he would be able to make some practical use of his investigations, and give them some vaccine or treatment which would prove a perfect cure for the violent nasal discharge they got in these cases.

Mr. BURT would like Mr. Buxton to tell them what difference there was in the clinical symptoms of cat distemper and cat influenza, because he had seen a large number of cats at different times, and he had never been able to say whether they had distemper or influenza. If the symptoms they had heard that afternoon were not those of cat distemper then he did not know what cat distemper was.

Mr. SIMPSON had never been able to thoroughly differentiate clinically between the different forms of catarrh in the cat, and he could only re-echo the hope that they would get a cure for these troubles.

Mr. CAUDWELL thought distemper, influenza and diphtheria were all very much alike, and with regard to the transmission of the diseases he had never known a human being take it from the cat. It might be that they did, but he had never known of such a case.

Mr. MACCORMACK on being asked by the President for his views, observed that he desired first to thank Mr. Buxton for his short but very able paper. Continuing, he was going to take an opposite view to several of the gentlemen who had spoken—he did think there were two diseases, and that cats suffered from influenza and distemper. They might ask immediately what were the symptoms. He was not going to give them that afternoon. It was simply a humble opinion

of his own, but he thought perhaps that there were some present who would also agree that there were two distinct diseases. It was very hard to differentiate between them he admitted, but he thought Mr. Buxton was on the right track, and if he could only get an antitoxin or vaccine it would help them very materially, because as they knew the cat was a most difficult patient to handle. They not only bit and scratched, but one could not get them to take any nourishment or medicine like they could other animals.

Mr. ARCHER. It might be said, perhaps, that it did not matter much whether it was one and the same disease or not, but it might do in the treatment of it as it was quite possible that what might be effectual in one complaint would not have any effect whatever in the other. His own impression was that cat influenza was very frequently called cat diphtheria. He was inclined to believe himself, from clinical observations more than anything else, that there was a cat distemper which was really a distinct disease, but he was not prepared to say positively that it was so. With regard to its being transmissible to the human being he was quite convinced that it was, especially in the case of children, and what was more important when cats got these throat symptoms, although it did not give diphtheria to the human being, it did convey to them a septic condition of the throat which people became very alarmed at. It was very important that they should know all they could about this subject, if only that they might be able to assure people whether there was any chance of their getting diphtheria from the cat. Personally he invariably treated it as a communicable disease, and told his clients to isolate as far as possible. With regard to treatment he generally tried sulphurous acid.

Prof. WOOLDRIDGE: What doses?

Mr. ARCHER: Five minims. Another thing he gave was sulphite of magnesia. He was treated with that himself for diphtheria.

Mr. BURT: You have not choked any cats with it yet, I suppose. (Laughter).

Mr. ARCHER: No. He used inhalations of iodine and eucalyptus or terebene in addition to internal medicines.

Mr. ANGWIN. If he might be permitted to make another contribution to the discussion, only last month he was called in to a case by two maiden ladies. These ladies had never had an animal in their house before, but they procured a black cat, and the cat was suddenly taken with the most fearful sneezing. Within a week both ladies were suffering from sore throats. They blamed the cat. He pooh-poohed the idea, but it might have been correct.

Mr. BURT asked Mr. Buxton if he had kept any record of how many fatal cases he had had. Personally he had treated a large number of cats in the course of his experience, but as far as he could remember he had only had about three die from influenza.

The PRESIDENT desired to thank Mr. Buxton very much for his very interesting paper and the information he had given them. He was very much to be congratulated on being the first in the field in this matter, and he was doing an excellent work in an entirely new direction, and on a subject that was really well worth studying. There were several types of disease which had been called cat distemper, but for some years now he had come to look upon this disease described by Mr. Buxton as something different. During the last five or six years he had made a very careful study of the matter, and he was very pleased when he read that Mr. Buxton had taken it up from the pathological side, and that he had actually discovered something which tended to confirm his own views. Mr. Buxton told him that when he had his place full of cats these outbreaks occurred in exactly the same way; and that had been his experience. But he could not understand his freedom from losses because he had found it an excessively fatal disease

among kittens, and when death did occur it occurred very rapidly. If the infection was a virulent one no treatment was of any use. Further, the symptoms were not those of ordinary cat distemper. There was the peculiar dribbling from the mouth and the sneezing which followed, and then when once a recovery began to take place the extraordinarily rapid recovery was quite different from that of cat distemper, where they might have the sneezing go on for a year or two. Then, again, in this influenza as he called it, instead of getting a heavy purulent discharge from the eyes and nose as in distemper, they would get a sudden lesion in the lung forming a croupous pneumonia from which the cat generally died in from twenty-four hours to two or three days.

Prof. WOOLDRIDGE: You get the same thing in distemper.

The PRESIDENT: No, not the same acute symptoms. You will have the lung symptoms going on for a week or a fortnight, perhaps. He was satisfied in his own mind that this disease was something quite different from distemper, as he had always recognised it. He confessed he knew nothing about the pathology of the disease, and he was very glad somebody had taken that up, because if they knew what the organism was, and could prove that that organism was the sole cause of this particular kind of infection, they could then differentiate it from cat distemper by experimental inoculation. He hoped Mr. Buxton, in his reply, would be able to describe it from the ordinary cat distemper by giving them a list of the symptoms as they had occurred in the cases experimentally inoculated.

Mr. BURT mentioned that in Brighton for some years now there had been a cat shelter for the collection of stray cats, and that place was seldom free from this influenza, but he did not think he had ever seen this purulent discharge from the nose, and it was also very seldom that a cat died there. It was very strange that these stray cats should have the vitality to recover when the better bred animals died.

The PRESIDENT, referring to the question of the contagion passing from cats to human beings, observed that he regarded it as nonsense.

Prof. WOOLDRIDGE: That is hardly worth much in the face of positive instances is it?

The PRESIDENT: I have never been able to trace any cases myself. The cat, of all animals, is the most likely to carry an infection in its fur, but if it was merely pharyngitis I should not mind children handling the animal, that is providing, of course, that it was not tuberculous.

REPLY.

Mr. BUXTON desired to thank Prof. Wooldridge for his kind remarks. The latter seemed to be extremely anxious that he should commit himself and differentiate between distemper and influenza, but in the first place he did not know what distemper was.

Prof. WOOLDRIDGE: In that case then you cannot say that this is not distemper.

Mr. BUXTON continuing: Assuming distemper was due to a specific organism, such as that described by Ferry, he could honestly say this disease was not distemper, because *this* particular organism always produced identical symptoms, and that, he believed, was not the rule in cat distemper. Further, if cat distemper was due to an invisible virus he failed to see that this could be the organism, because it was not an ordinary inhabitant of the cat's respiratory track, and if distemper was due to a virus the organisms that were going to cause the secondary lesions must be ordinary inhabitants. The serious part of this influenza lay in the fact that the animal would not look after itself. It did not appear to suffer from any general intoxication, and the effects were purely local, whereas in distemper they certainly were not local. Animals which were

suffering from distemper always showed symptoms of a more or less general intoxication, but in the case of cat influenza they had a coryza laryngitis, and the effects were purely local. Then, again, in influenza they got a high temperature at the very outset of the disease, but afterwards it was very uncommon to get a high temperature unless pneumonia supervened. In the case of a cat suffering from distemper on the other hand they had a high temperature curve that might last over several days, and this high temperature curve appeared to be produced by intoxication, and he had not seen that condition of things in cat influenza. Neither had he seen any caking of the discharge running from the eyes and nose of an animal suffering from influenza, but they got this in distemper. "Contagious catarrhal fever" would be a very good name to give the complaint, but he failed to see any great objection to "influenza." With regard to the transmission of the disease to human beings, he did not think cat influenza ever caused any serious disturbance to the human being, but that it could be transmitted he knew perfectly well, because he had had it three times himself, and his assistants had caught it twice. It was simply an irritation of the nose and eyes, causing sneezing, and some laceration which lasted from 24 to 48 hours, and then went off. He did not know whether it was a coincidence, but each attack he had had seemed to be worse than the previous ones.

Mr. E. WHITLEY BAKER asked Mr. Buxton whether, when he had suffered from this cat influenza, he had noticed any other human being had had it.

Mr. BUXTON: No, and I think there is no question that it was transmitted from the cats.

Prof. WOOLDRIDGE: May I be allowed to emphasise what I think Mr. Buxton means, because I know a little of the conditions under which he does his work. It has only been Mr. Buxton or his assistants who have been associated with him in the handling of the cats that have had it I understand.

Mr. BUXTON: Yes, that is so. The proportion of fatalities among his cats had only been about five per cent., but that was because he had generally had to deal with old cats, and although when he got an outbreak it generally ran through the whole lot, it was only the young cats that got it seriously.

Prof. WOOLDRIDGE remarked that if he might make a further contribution to that afternoon discussion, the conclusion he had been driven to as the result of what they had heard that day was that this disease was the same as that which he had always recognised as feline distemper, but if they must call it *influenza* then he must say that he had never seen a case of *distemper* in a cat. In that case, considering the enormous number of sick cats which he saw every year, he was driven to the conclusion that feline distemper did not exist. In other words, it amounted to practically the same thing, the disease he called distemper was regarded as *influenza* by the President and Mr. Buxton.

On the proposition of Mr. Angwin, seconded by Mr. Caudwell, the Secretary was directed to write to Mr. Toope, of Dover, and inform him that if he was circularising the profession in connection with his candidature for the Council, he could state that he had the support of the Southern Counties Society.

Mr. CAUDWELL subsequently handed round several interesting post-mortem specimens for inspection, and for which he was formally thanked on the proposition of Mr. Angwin, seconded by Prof. Wooldridge.

Prof. WOOLDRIDGE also proposed, and Mr. Caudwell seconded, a hearty vote of thanks to Mr. Basil Buxton for his interesting paper; and a similar compliment to the President for presiding, on the motion of Mr. Angwin, seconded by Mr. Burt, brought the proceedings to a close.

A. H. ARCHER, Hon. Sec.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.			Anthrax.		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
			Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.		Out-breaks	Slaught-ered.*
Gr. BRITAIN.													
Week ended April 18			14	15			1	2	45	64		109	1043
Corresponding week in	{	1913 ...	15	15			4	8	66	112		59	956
		1912 ...	15	16			1	3	60	92	2	76	945
		1911 ...	21	21			8	14			2	62	328
Total for 16 weeks, 1914 ...			292	312	11	74	30	75	1073	1966	139	1036	9813
Corresponding period in	{	1913 ...	215	232			54	178	1193	2485	110	605	7889
		1912 ...	376	426			54	126	1717	3879	149	1015	12924
		1911 ...	320	370	1	18	67	210			289	677	7187

(a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked: London 1, Forfar 1.
Board of Agriculture and Fisheries, April 21, 1914

IRELAND.											
Week ended April 18	...	...	...	...	...	...	Outbreaks	3	5	32	
Corresponding Week in	1913 ...	...	...	...	...	...	2	8	6	14	
	1912 ...	...	...	...	...	...	4	12	9	93	
	1911 ...	...	...	...	...	...	...	3	3	9	
Total for 16 weeks, 1914	1	2	65	601	...	...	37	308	88	385	
Corresponding period in	1913 ...	...	...	...	...	...	77	238	46	259	
	1912 ...	1	1	...	...	...	31	233	83	668	
	1911 ...	3	3	...	...	1	36	216	44	732	

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, April 20, 1914
NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

NORTH OF IRELAND
VETERINARY MEDICAL ASSOCIATION
(NATIONAL V.M.A.—IRISH BRANCH.)

The annual general meeting was held on Friday, the 20th March, at the Belfast City Abattoir, Stewart St. Mr. J. A. Jordon, President, occupied the chair, and the following members were present:—Messrs. J. J. Ross, R. Kernohan, J. Ewing Johnston, J. McLean, A. M. Crighton and F. W. Emery.

Apologies for non-attendance were received from Messrs. W. S. Lamont, W. C. M. Smith, A. Monro, J. B. Dunlop, and Capt. Hodgkins, A.V.C.

The minutes of the last meeting were taken as read and confirmed.

REPORT OF COUNCIL.

A Council meeting was held on Thursday, 12th inst. at the Belfast City Abattoir. The President occupied the chair, and there were also present: Messrs. Ross, McConnell, McLean, Johnston, and Emery. Apologies for non-attendance were received from Messrs. W. C. M. Smith, J. Kernohan, and J. McAleer.

Your Council desire to express their deepest regret at the great loss our Association has sustained by the death of the late Mr. J. A. Thompson, J.P., F.R.C.V.S. who for many years so ably discharged the onerous duties of Treasurer to the Society. When the sad event became known your Council took steps to have the Association represented at the funeral and to send a wreath in token of the great regard in which our late colleague was held by every member. Letters of con-

dolence were also forwarded to the widow and family in your behalf.

Owing to this very sad event it was found necessary to postpone the date of the annual general meeting.

Your Council recommend that a further subscription of five guineas be sent to the Treasurer of the International Veterinary Congress in order that the amount originally promised be paid.

It is also recommended that the sum of £2 10s. be forwarded to the Treasurer of the National Association in connection with the scheme of amalgamation.

The undermentioned members of our Association are nominated as office bearers for 1914.

President.—Mr. W. C. M. Smith, Newry.

Secretary.—Mr. J. A. Jordan, Belfast.

Treasurer.—Mr. Howard McConnell, Armagh.

Vice-Presidents.—Messrs. J. Kernohan, Ballymena; F. McRoberts, Camber.

Council.—Messrs. J. J. Ross, J. McLean, J. McAleer, J. Gregg, J. Ewing Johnston, A. M. Crighton, and J. Loughran, J.P.

On the motion of Mr. R. Kernohan, seconded by Mr. Crighton, the report of Council was adopted by the meeting.

New Member. Mr. Esmonde W. Little, M.R.C.V.S., D.A.T.I., was unanimously elected.

Mr. W. P. WALSH, M.R.C.V.S., Magherafelt, was nominated by Mr. R. Kernohan, seconded by Mr. F. W. Emery.

The meeting discussed the forthcoming election to the Council of the R.C.V.S.: the purchase of Registers for the use of the Secretary and Treasurer, and the circular letter of the Hunting Memorial Committee. In connection with the latter it was proposed by Mr. Ross,

seconded by Mr. Kernohan, and passed, that the Treasurer be authorised to forward the sum of two guineas on behalf of the Association.

The PRESIDENT invited the members to make an inspection of the new abattoir, and in conducting them over this very fine and splendidly equipped building gave a very lucid exposition of the methods of procedure adopted in connection with the various works carried on within its portals.

The meeting terminated by a very hearty vote of thanks to the retiring President for the very able manner in which he had conducted the business of the Association during his term of office.

Medical Protest Against the Dogs Bill.

The following is the text of the memorial which was addressed to the Home Secretary, before the second reading of the Dogs Protection Bill, by some of the most eminent physicians, surgeons, and research workers in the country.

"We desire to express to you our strong conviction that the Dogs Protection Bill, which was put down for second reading on Friday, 17th inst., would inflict very severe injury, not only on medicine and surgery, but also on the study of the diseases of animals. We think that we have some right to ask you to oppose this attack on the advancement of medical science and practice; especially as the Final Report of the Royal Commission on Vivisection does not advise the prohibition of experiments on dogs. We are absolutely certain that such experiments are necessary for the complete study of many problems of physiology, pharmacology, and pathology."—*The Times*.

The Spectrum of Alkaloids.

The application of the spectroscope to the elucidation of the structure of the alkaloids as well as to their detection and estimation has an obvious interest for medical men. The ultra-violet end of the spectrum is concerned, for there the absorption phenomena of alkaloid solutions are displayed. Ultra-violet rays are employed, and the prisms and lenses are made of quartz, as the ultra-violet rays are cut off by glass. The alkaloids have very characteristic spectra, and the lines of selective absorption can be photographed. The minutest quantities of alkaloids can be detected, and a permanent impression can be kept of the records which are always available for reference.

OBITUARY

EDWARD COOPER SMITH, M.R.C.V.S., Hollist Stud Farm, Midhurst, Sussex. Graduated, Lond: April, 1865.

Mr. Smith died on April 15th, at Eastbourne, from malignant disease of the cæcum. Aged 69 years.

HENRY HOWSE, M.R.C.V.S., Newland, Lincoln. Lond: April, 1856.

Death took place on April 16th, from senile decay. Aged 80 years.

GEORGE SMITH, M.R.C.V.S., Tunstall, N. Staffs. Lond: April, 1873.

Death occurred on April 16th, at Station Road, Tunstall, from cardiac disease (valvular), at the age of 63.

ALF. PRUDAMES, M.R.C.V.S., Elm Lodge, Linslade, Leighton Buzzard. Lond: May, 1861.

Mr. Prudames died on April 20th, at the age of 76, from old age: influenza, bronchial pneumonia.

PARLIAMENTARY.

PURE MILK.

In the House of Commons on Wednesday, April 22.

Mr. ASTOR called attention to the unsatisfactory state of legislation and administration with reference to the supply and sale of milk and cream in the United Kingdom; and moved, "That fresh legislation is needed to control the supply and sale of milk and cream in the United Kingdom, and that the existing laws should be more thoroughly administered." He said his object was to try to ascertain the intentions of the Government with regard to further milk legislation. If the public realised the necessity of having pure milk they could get it, and get it at a reasonable price. They were told that if they had further milk legislation there was a prospect that the price might be raised. He believed good milk was cheap milk and bad milk was dear milk. Milk was a good medium for transmitting disease, and milk which produced disease was not cheap at any price. The first essential was that the milk must be pure. Pure milk was by far the cheapest and most nutritive food on the market. Yet they had cases of cows so far advanced in disease that they could not stand, and milk from those cows was sold to the public. Ten per cent. of the milk which came to London was tuberculous, which meant that on one day in ten people who drank milk drank tuberculous milk. They desired uniform legislation and regulations throughout the country dealing with dirt, the temperature at which milk was kept, and the age of the milk, which were the three main factors with regard to disease in milk. He wished also to see the compulsory classification of milk into three grades—(a) the best sort of milk, from herds tested and guaranteed free from disease, which could be given with absolute confidence to children in its raw state; (b) safe milk, which adults could drink with impunity, but which having a larger number of bacteria than class (a) might not perhaps be suitable for young children; and (c) all milk which on its merits could not come in either of the other classes. He had had a sample of the milk supplied to the House of Commons analysed and found it was the rare and fruity vintage; for the sample contained 72 million bacteria per cubic centimetre. The danger of tuberculous milk to adults might be exaggerated, but it was difficult to exaggerate the danger to children. It was their interest to build up a healthy race and to see that the children had a fair chance when they started in life. They must see to it that the milk given yielded nourishment and did not give disease and even death to children.

Mr. HILLS seconded the motion. He emphasised the importance from the national point of view, of Parliament taking adequate steps to ensure a pure milk supply, and pointed out that the schemes adopted in New York with this object in view had reduced infantile mortality by nearly 50 per cent. in three years.

The debate was continued by Sir R. Baker and Messrs. Allen, Hume-Williams, H. Hope, and J. F. Mason.

Mr. HERBERT SAMUEL in the course of his reply said:—There was no doubt that the measures so far taken to protect the milk supply were totally inadequate to safeguard the public health, and it was essential that fresh measures should be taken. Any Bill introduced should, in his opinion, substitute for various codes now administered by local authorities the uniform provisions of a general statute. The Bill he hoped to introduce shortly—a Milk and Dairies Bill—would be much more restricted than its predecessors, but would still, he hoped, be effective. He did not propose that milk sellers should be licensed, but he proposed to take full powers to trace back tuberculous milk to its source, and to deal effectually with diseased cows. He was anxious not to disturb the dairying industry, or to raise the price of milk, and the Bill would be framed in that spirit.

RESEARCH : CIVIL PENSIONS.

Mr. C. Bathurst asked the Home Secretary if, in view of the services to the community of the late Mr. William Hunting, F.R.C.V.S., who died on October 24th, 1913, especially in the scientific research which had rendered possible the stamping-out of the disease of glanders, fatal alike to man and horse, the claims of his children (a son and daughter), now without means of subsistence, to Civil List pensions, would be favourably considered.—Mr. McKenna said that, if details were supplied, the case would be gladly considered.

MILK AND DAIRIES BILL.

In reply to Mr. C. Bathurst, Mr. Herbert Samuel said he hoped to be able to introduce the Milk and Dairies Bill shortly, but that he could not suggest a day for the second reading.

Personal.

SEARBY—BOULTBEE.—On the 16th inst., at the Parish Church, Ramsey, Hunts., Bernard Allen Searby, M.R.C.V.S., to Rosalind Francis Evelyn Boulton, elder daughter of the late F. R. Boulton, M.I.C.E., Johore Government Service, and Mrs. Boulton.

WYNN LLOYD—PRITCHARD.—On April 16th, at Salem Church, Carnarvon, by the Rev. D. Stanley Jones, assisted by the Rev. David Hoskins, M.A., L. W. WYNN LLOYD, M.R.C.V.S., to Lassie, youngest daughter of J. R. Pritchard, J.P., of Bryneisteddfod, Carnarvon, and of Mrs. Pritchard.

MARKS—DIER.—The marriage of Miss Gertrude Alice Dier, daughter of Mr. J. B. DIER, M.R.C.V.S., and Mrs. Dier, of East Grinstead, to Mr. Frederick Marks, M.R.C.V.S., son of Mr. H. Marks, of Herne Bay, took place very quietly at the Parish Church, East Grinstead, on Tuesday, the 14th inst. The bride's father is well known and respected in East Grinstead and district, where he has not only practised in his profession, but has taken a keen interest in public matters. He was Vice-Chairman of the East Grinstead Urban Council until he retired this year, and he has also served on public bodies at Danehill, where he formerly lived. The bridegroom has been in partnership with Mr. Dier for the past two or three years, and has during the past twelve months or so carried on the Danehill branch of the practice. The bride was given away by her father. Mr. Ernest Marks attended his brother as best man.—*Southern Weekly News.*

COLONIAL APPOINTMENTS.

Sir,

I quite agree with "East of Suez" in his letter in your issue of 28th Feb. The Colonial Governments are not going to attract the best men when they offer such small salaries combined with indifferent prospects. Do they expect any ambitious young man to waste away his life stuck out on the back of beyond, with no intercourse with brother professionals, pioneering his profession for the sake of posterity and an unappreciative Government surrounded by unbelievers and sceptics? A maximum of £500 per annum does not limit the man engaged in private practice, and in the Transvaal this maximum is just sufficient to enable a married man to keep his head above water by living extremely parsimoniously. Certainly they should be able to engage men at the salary offered, but not the best men with Post Graduate Certificates also, and I believe they expect the best. It is not the salary which attracts but perhaps a desire to travel, to see the world, which operates in most cases, but after the space of a few years, regret comes that one voluntarily exiled oneself, unfitted oneself for private practice and that the only future is to hang on,

devoid of ambition, in the hope of living long enough to enjoy the small pension. I think if the back veldt veterinary surgeons were brought in occasionally for instruction in Dr. Theiler's well equipped laboratory it would keep alive their interest in science and relieve the monotony of their existence.

"S. AFRICAN."

THE COMMON COLICS OF THE HORSE. Their causes, symptoms, diagnosis and treatment, by H. Caulton Reeks, F.R.C.V.S. Third Edition, enlarged, cloth lettered, pp. xvi. + 369. 32 illustrations. 4 p. Publishers' adverts. 6/- net. Baillière, Tindall & Cox, Henrietta Street, London, W.C.

Veterinary Societies—Addresses.

BORDER COUNTIES V.M.S.

Pres: Mr. J. W. Hewson, M.R.C.V.S., Wigton

Hon. Sec. (pro tem.): Mr. F. W. Garnett, M.R.C.V.S.,

Dalegarth, Windermere

Meetings, Second Friday of Feb., June, and October

GLASGOW V.M.S.

Pres. Principal McCall.

Hon. Sec. Mr. J. D. Fulton, 83 Buccleuch Street, Glasgow

ROYAL VETERINARY COLLEGE V.M.A.

Pres: Prof. E. Brayley Reynolds.

Hon. Sec: Mr. B. Gorton, M.R.C.V.S. Assist. Mr. E. E. Jelbart

ASSOCIATION OF VETERINARY OFFICERS OF HEALTH

Pres: Mr. T. Douglas, M.R.C.V.S., Kilmarnock

Hon. Sec. & Treas. Mr. A. M. Trotter, M.R.C.V.S.,

Moore Street, Abattoir, Glasgow

NATIONAL ASSOCIATION OF VETERINARY INSPECTORS

Pres: Mr. J. Abson, F.R.C.V.S., Sheffield

Hon. Sec: Mr. Trevor Spencer, M.R.C.V.S., Kettering

MUNSTER VETERINARY INSPECTORS' ASSOCIATION

Pres: Mr. D. M. Barry, M.R.C.V.S., Mallow

Hon. Sec: Mr. T. I. Alexander, M.R.C.V.S., Kinsall

NATIONAL VETERINARY BENEVOLENT & MUTUAL

DEFENCE SOCIETY.

Pres: Mr. W. A. Taylor, F.R.C.V.S., Brick-st., Manchester

Hon. Sec: Mr. G. H. Locke, M.R.C.V.S.

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19 Bank Street, Hillhead, Glasgow

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88 Crookston Street, Glasgow

Meetings, Second Wednesday, May, Oct. and January.

COLONIAL SOCIETIES: (see preceding page)

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FELINE DISEASES.

Mr. Buxton's short paper upon "Cat Influenza," with its discussion by the Southern Counties Society which appeared last week, illustrate how much we have still to learn concerning many of the commonest cases in practice. The catarrhal diseases of the cat are comparatively a minor subject, but their importance to the practitioner is increasing every year, and no group of diseases is more obscure. Some bacteriological work has been done upon them—that of Mr. Buxton seems likely to lead to good results—but much more remains to be done. To the clinician, these affections are a complete mystery. How many specific catarrhal diseases attack cats? Are they distinct diseases, or variations of one disease under the influence of secondary infections? How can they be differentiated clinically? Which of them, if any, represents distemper?—to which should the term "influenza" be applied, or is that term really applicable at all?—and are any of them sufficiently transmissible to man to be of importance on that score? No one can answer one of these questions with certainty—those who attempt answers are merely offering individual opinions.

The near future will probably see an increase in the study of feline diseases in the laboratory. Clinical experience ought to supplement this, but the subject is one of those in which clinical experience loses half its value if it is not systematically noted.

There are men who see these cases daily, and their noted experience might be invaluable. But, without notes, much of that experience would be too hazily remembered to be reliable. Systematic note-taking is tiresome work; but, considering how important feline practice is becoming and how little we know of many of its problems, it is well worth doing.

Lastly, there is still room for further enquiry as to whether the feline catarrhs are transmissible to man. The public are generally inclined to believe in such transmissibility. Many veterinary surgeons flatly deny it; and some who do so are men of great experience. Still, there is some evidence in support of at least a certain degree of transmissibility; and all such evidence requires careful sifting. Much of it is vague, and some probably originates from combinations of coincidence and prejudice: but there seems to be enough to justify us in regarding the question of transmissibility as not yet definitely settled.

SUCCESSFUL TREATMENT OF PROTRACTED PNEUMONIA IN THE HORSE BY IODIPIN.

Many reports have appeared of the favourable effect which subcutaneous injections of iodipin exercise upon feverish toxic infections. The drug is said to cause hyper-leucocytosis, prompt fall of the temperature, and improvement in the general condition. These reports have induced Johannes Schaaf, of Berlin, to try the effect of a 25 per cent. solution of iodipin (which is prepared for veterinary use at a moderate price) in equine pneumonia.

Schaaf's first case terminated fatally, but its course while under treatment with iodipin strengthened his confidence in the drug. He had been treating the horse by other methods for eight days without success. The animal had taken no food throughout the period, and constantly grew weaker. Schaaf injected 50 grammes (about 1-2/3 oz.) of iodipin subcutaneously in the neck. The next day the horse showed an appetite, and took hay and carrots briskly. Schaaf injected another 50 grammes of iodipin, and a keener appetite developed on the following day. The condition then suddenly became worse, and the horse died. Post-mortem examination revealed the existence of a gangrenous pneumonia, against which iodipin would naturally be ineffectual. Nevertheless, Schaaf arrived at the conviction that, had iodipin been used earlier, a gangrenous process of the pulmonary tissue would not have arisen.

In the next case, Schaaf awaited the day of the crisis. As no improvement appeared on the sixth day, he began on the seventh day with an injection of 50 grammes of iodipin. On the same day the animal began to eat again, and the temperature went down. On the following day Schaaf repeated the injection. The appetite remained continuous, and Schaaf gave further injections of the same dose on the third and fifth days. The condition improved daily, the horse regained his strength, the breathing became calmer, and gradually a complete recovery took place.

With the same dosage, Schaaf has since repeatedly successfully treated horses in which he clinically diagnosed an atypical form of pneumonia. He remarks that the fact that the animal recommences to eat after the iodipin injections impresses the owner, and induces him to disregard the relatively high price of the drug.

The injections of iodipin should be begun early, as soon as a typical crisis fails to appear.

Of course, in addition to using iodipin, it is absolutely necessary to strengthen the action of the heart. Schaaf does this by means of daily alternative doses of camphor and digalen. The latter drug

is especially serviceable, as it is given subcutaneously. Very soon after the injection of 10 c.c. of digalen, an improvement in the heart's action, a rise in the blood pressure, and a slowing of the pulse can be observed. But Schaaf ascribes the chief effect to the iodipin, as he has had no losses since using it.

In most cases, in the course of the illness, Schaaf injects 200 grammes of iodipin in doses of 50 grammes each. He warms the preparation well before administration, and employs a wide canula for the injection.

He has never observed abscesses after the injections, but a painful swelling often appears. This, however, soon subsides. After his hitherto successful experience, he warmly commends iodipin for pneumonias running a protracted course.—*Münch. Tier. Woch.*

AN ACUTE SERO-FIBRINOUS POLYARTHRITIS IN SWINE, CAUSED BY TRANSPORT.

Albert Stützel, a veterinary practitioner of Geislingen-Steige, Württemberg, has dealt with this subject in an inaugural dissertation at Freiburg. Many young lean swine were being transported from North Germany into South Germany to be raised and fattened in large feeding establishments in the latter country. A number of these animals which travelled by railway, and had to make a journey lasting from four to five days, regularly showed a peculiar affection of the joints. This occurred so constantly that an unknown contagious disease was erroneously presupposed to exist. A careful investigation took place, in which Mayer, an official veterinarian, bore an especially prominent part, and by numerous post-mortem examinations the condition was proved to be "an aseptic, specific, independent disease of the joints." K. Glässer, in his book on the diseases of swine, states that similar cases of illness have occurred in Hanover, Westphalia, and the Principality of Lippe-Detmold.

According to the results of the investigation, this sero-fibrinous polyarthritis of swine must be attributed to injurious traumatic influences during the long journey, in which long fasting and unsatisfactory accommodation exercise a predisposing effect. The condition is of importance in connection with the differential diagnosis of the scheduled contagious diseases of swine.—(*Berliner Tier. Woch.*)

TRAUMATISM OF THE SPLEEN FROM A FOREIGN BODY.

Dora, of Ebermannstadt, records the case of a cow which for some days had been eating badly, and could only be moved with difficulty. Nothing pathological could be demonstrated in the thoracic organs. The movements of the rumen were sluggish, and the region of the ensiform cartilage was sensitive to pressure. Some days later the sensitiveness had extended to the thorax and over the ribs, and every movement seemed to cause the animal pain. The presence of a foreign body was suspected, and the cow was slaughtered.

Post-mortem, the foreign body was found—a wire about eight inches long, which had penetrated from

the reticulum into the spleen. The spleen itself was vastly enlarged, and its capsule greatly thickened. A portion of the organ was transformed into an abscess, which contained foul-smelling pus.—*Munchener Tier. Woch.*

TUBERCLE BACILLI IN THE GALL OF ANIMALS.

The question whether tuberculous individuals discharge tubercle bacilli by means of their gall has hitherto been little studied. Not long ago it was brought into prominence by some researches carried out by Joest and Emshoff. More recently C. Titze and E. Jahn have investigated the subject afresh, and they have published (*Arbeiten aus dem Kaiserl. Gesundheitsamte*) their results.

They agree with the view of Joest and Emshoff that infection of the blood stream has no significance in connection with the excretion of tubercle bacilli in the gall. It is possible that an invasion of the veins of the portal system may influence the excretion of tubercle bacilli in gall. But the essential cause of the latter event is the existence of tuberculous lesions in the liver. In all the cases in which Titze and Jahn found tubercle bacilli in the gall, with one exception, tuberculous disease was present in the liver or in the portal lymphatic glands.

The tubercle bacilli discharged from the liver may, without great diminution of their virulence, pass into the intestine and from thence into the outside world. Hepatic tuberculosis, therefore, in many cases represents an "open" form of the disease.—(Berliner Tier. Woch.)

(An abstract of Joest and Emshoff's work appeared in *The Veterinary Record* of June 29th, 1912, page 819.—*Transl.*)

PROLAPSE OF THE SMALL INTESTINE THROUGH A RUPTURE OF THE RECTUM AFTER PARTURITION.

Barthe records (*Revue Vét. de Toulouse*) the following case. A powerful Anglo-Arabian mare, after the normal birth of a well-developed foal, showed some agitation, followed by colic, which constantly increased in violence.

Upon his arrival Barthe found the mare lying on the ground. Under the tail and between and behind the hind limbs, coils of intestine were lying upon the straw. These had already been trodden, so that the contents had escaped.

Barthe at once saw that the prolapse was proceeding from the rectum. Rectal exploration revealed a longitudinal rent about six inches in length in the upper wall of the rectum, through which the small intestine had worked out in consequence of the action of the labour pains.

Post-mortem, the uterus was found to be intact. The rectum was filled with balls of fæces, firmly pressed together. It may be assumed, therefore, that the upper wall of the rectum, lying between the sacrum and the mass of fæces, could not withstand the enormous pressure put upon it at the moment of parturition, and especially during the passage of the bony prominences of the foal. After the rent had arisen, during the expulsion of the

placenta, the contractions of the abdominal muscles had pushed the small intestine towards the pelvis and through the laceration.

The administration of a clyster shortly before parturition would certainly have prevented this accident.—(*Berliner Tier. Woch.*)

PROLAPSE OF THE RECTUM IN HORSES.

Heisener, of Greifenburg, has recently treated two cases of prolapse of the rectum in horse. In both cases the rectum was pressed out to about the size of a fist, and the rectal mucous membrane was very swollen and oedematous.

The prolapsed rectum was washed and cleansed with a solution of alum, and returned to its place. A piece of cloth soaked in alum solution, was then placed in the rectum, and a prolapse bandage applied. Both cloth and bandage were removed every two hours, to permit faeces to pass. After twelve hours of this treatment the bandage was removed, and no further prolapse occurred.—(*Berliner Tier. Woch.*)

THE HYPODERMIC INJECTION OF CAMPHOR IN ACUTE RHEUMATISM.

A. Borghesi has published (*Il Nuovo Ercolani*) a communication regarding this method of treatment. He has found that repeated rubbings of camphorated alcohol upon muscles and joints affected with rheumatism often induced recovery without any other treatment. This led him to try the effect of camphor given hypodermically. His method is to dissolve the camphor in almond oil, and add a little ether to act as a general stimulant and to render the solution more fluid and more easy to aspirate with the syringe.

The formula is—camphor $2\frac{1}{2}$ grammes, oil of almonds 6 grammes, and sulphuric ether 4 grammes. (Approximately these doses represent respectively $38\frac{1}{2}$ grains, $1\frac{1}{2}$ drachms, and 1 drachm). These quantities are for one injection, but the dose may be doubled. The injection is made in a place where the skin is thin and loose.

There is no local reaction. After the injection the fever diminishes, the animal recovers its spirits, and the cardiac disturbances disappear. The injections should be repeated for three or four successive days.

This method has given good results in horses and cattle, and is equally beneficial in both generalised and localised rheumatism. The author regards it as more efficacious and more economical than the employment of sodium salicylate. (*Annales de Méd. Vét.*)

W. R. C.

Ultra-violet rays are now being employed on a practical scale for the sterilisation of water and milk, while more recently it has been shown that the rays can produce changes similar to those effected by enzymes. Thus starch has been converted into sugar and albuminoids into soluble proteins as though diastase and pepsin had respectively been employed.

NATAL

VETERINARY MEDICAL ASSOCIATION.

The fourth annual general meeting was held in the offices of the Senior Veterinary Surgeon, Natal, at Pietermaritzburg, on October 24th, 1913. There were present Messrs. Power, Amos, Sharp, Ewing, Hutchinson, Goulé, Harber, Cordy, Woollatt, Johnston, and the Secretary, with the President, Mr. Carless, in the Chair.

New Members. Mr. S. I. JOHNSTON and Mr. W. G. BARNES were nominated and elected.

The officers of the previous year were re-elected as follows:—

President.—Mr. CARLESS.

Hon. Sec. and Treas.—Mr. A. GOULÉ.

An interesting paper was read by Mr. A. F. Harber on the "Surgical and Medical Treatment of Epizootic Lymphangitis, and the possible Conveyers of the Disease from the Infected to the Susceptible Animals." This gave rise to a very animated and instructive discussion.

Mr. AMOS moved that the Association contribute to the International Veterinary Congress to be held in London in August, 1914, and also to the Victoria Benevolent Fund. It was decided that sums of £10 10s. and £5 5s. respectively be forwarded to the Committees of the Funds.

An animated discussion then took place as to the advisability or otherwise of the continuance of the practice on the part of Government Veterinary Surgeons of attending cases for farmers and others to the detriment of the private practitioner.

A further paper was read by the Secretary on the subject of "Sheep Scab," which incited a very interesting discussion. The meeting then closed.

A further informal meeting was held later when, in consequence of his leaving to take up a post for the Imperial Government of India, Mr. Shilston resigned the post of Hon. Secretary and Treasurer, to which Mr. Goulé was then elected.

A. GOULÉ, Hon. Sec.

THE BACTERIOLOGY OF MILK IN RELATION TO INFANT FEEDING AND TO THE TREATMENT OF ALIMENTARY DISEASE.

At a meeting of the Manchester Medical Society held on April 1st:—

Dr. RALPH VINCENT opened a discussion on the Bacteriology of Milk in Relation to Infant Feeding and to the Treatment of Alimentary Disease. He grouped the organisms according to the conditions determining their growth in milk. 1. Bacteria producing lactic acid but not producing gas. This group was represented by the streptococcus lacticus and the bacillus lacticus. The streptococcus lacticus was the typical organism growing in pure milk at 38° C. At a later stage, when the acidity had become too great for the streptococcus, the bacillus lacticus appeared, for this organism was exceptionally tolerant of acid. 2. Bacteria producing lactic acid, carbon dioxide, and alcohol. This group embraced the whole of the colon organisms, and included the bacillus acidi lactici (Hueppe), bacterium acidi lactici (Esten), bacillus lactis aerogenes (Escherich), and the bacillus coli communis. When pure milk was incubated the growth of the organisms belonging to this group was inhibited by the growth of the organisms belonging to the first group. When milk, however, was grossly contaminated by colon organisms these might acquire dominance, and in such cases the curdled milk showed

evidence of gas production. 3. Bacteria growing in "pasteurised" milk—that is, milk that had been subjected to a temperature between 65 and 100° C. The bacillus putrificus and the bacillus lactis aerogenes were examples of this group, and their products were of a highly irritant and dangerous character. 4. Bacteria growing in milk after it had been raised to 100° C. owing to the fact that their spores had not been destroyed. These organisms were found in milk that had been boiled or "sterilised" and in condensed milk. The group embraced a large number of organisms, the chief representatives being the bacillus subtilis, and bacillus mesentericus, and the bacillus mesentericus vulgatus. When they developed in the intestines extremely powerful poisons of an alkaloidal character were created, and the absorption of these poisons produced profound coma and death. The contents of the small intestine were normally acid owing to the formation of lactic acid from lactose by the lactic bacteria. Were it not for this acid condition putrefactive processes would occur. In the soil the conditions were reversed, for putrefaction was the essential process by means of which dead organic matter was decomposed and rendered available for the vegetable kingdom. The lecturer discussed the methods of bacteriological examinations of intestinal dejecta employed at the Infants Hospital, and drew especial attention to the pathological conditions induced by improper diet. When the infant was deprived of the lactic organism naturally present in milk the colon organisms became proteolytic and grave illness resulted. All his observations had gone to show the extreme importance of the milk for infants being given in its raw condition. He believed that the improper feeding with cooked food encouraged the development of tuberculosis, and that the boiling of milk played an important part in the production of diseased conditions in infancy and childhood. Dr. Vincent concluded with a lantern demonstration of numerous photomicrographs illustrating the organisms found in various pathological conditions of the alimentary tract.

Dr. NATHAN RAW said that he did not think it was sufficiently well known that pure milk was sterile, and that the lactic organisms were non-pathogenic. Dr. Vincent's remarks applied to the conditions obtaining at the Infants Hospital, which enjoyed rather exceptional benefits, but in such towns as Liverpool and Manchester it was surely safer to pasteurise the milk before giving it to children. His own observations had brought him to the conclusion that there was a very real danger in such towns of infants contracting tuberculous disease from untreated milk; he would like to ask Dr. Vincent if he did not think that bovine tubercle bacilli were capable of infecting children.

Dr. C. P. LAPAGE said that he would like to have heard Dr. Vincent's opinion on dried milk. He had come to the conclusion that in slum districts it was safer for the milk to be pasteurised than to be given to infants untreated.

Dr. VINCENT, in his reply, said that he was astonished to hear Dr. Raw speak of a "sterile" milk. Neither human milk nor cow's milk was sterile. Collected with the greatest care both milks after about eight hours' incubation at blood temperature normally showed a profuse growth of the streptococcus lacticus. The bacillus aerogenes capsulatus could always be found in cow's milk provided a sufficient quantity of cow's milk was taken. He did not think that the "pasteurisation" recommended by Dr. Raw could be relied upon to destroy tubercle bacilli. He based his statement in regard to cooked milk and tuberculosis simply upon practical experience, not only of himself but of many others. He could not establish any relationship between the consumption of raw milk and the incidence of tuberculosis. On the contrary, he found that children fed on boiled or condensed milk were much more prone

to the disease, especially in its more serious forms. He found it difficult to understand the attitude generally adopted by medical men who favoured the boiling of milk, for they were uniformly silent on the subject of boiling the butter, a concentrated milk product always prepared from raw milk. Practically all the infants attending the out-patient department of the Infants Hospital were fed on raw milk which the mothers obtained from the ordinary milk shops. The infants did extraordinarily well, and the work there afforded no justification for the advocacy of boiled milk. He was inclined to agree with Dr. Lapage with regard to dried milk. If a child had to be fed on a cooked food, then dried milk was better than boiled milk.—*The Lancet*.

At the Infants Hospital, Westminster, on April 21st, as the first of a series of lectures on "Babies," Dr. Ralph Vincent, the senior physician and director of the Research Laboratory at the hospital, spoke on the chemistry of milk.

Dr. Vincent pointed out that milk is practically the only food containing all the elements necessary for an infant's nutrition. He laid particular emphasis on the superiority of uncooked over cooked milk, for in the latter the lactic organism was destroyed. This organism was essential, as it produced an acid by the fermentation of milk and sugar which prevented the growth of putrefactive and other injurious organisms.

The essential requirement for a baby, insisted Dr. Vincent, was clean pure milk in its natural condition.

Electric Treatment of Milk.

At a meeting of the Liverpool Medical Institution Professor J. M. Beattie submitted a paper on "The Electric Treatment of Milk." The two problems to be solved were: 1. Could the pathogenic bacteria be destroyed? 2. Could the milk be turned out free from pathogenic bacteria and yet otherwise unaltered? He described the initial difficulties. He then gave a detailed description of the apparatus he employed. A rapidly alternating current was used, and there must be no eddies in the milk and no cessation of flow. He gave an account of numerous experiments showing the effect on the bacteriological content of the milk. So far milk infected by tubercle had been rendered free from tubercle bacilli and the bacillus coli group. Guinea-pigs were freely used in the experiments. The only bacteria left in the milk were sarcinae, sporing bacteria, and occasional streptococci, the bacilli coli group, and the tubercle bacilli being invariably killed. Careful examination of the treated milk revealed no difference between it and fresh milk, the milk tasted the same and had the same odour as fresh milk, and its keeping power was greatly increased. He stated that the plant was devised and many experiments carried out by Mr. Lewis, of the Bacteriological Laboratory, to whom the success of the experiments was due.

The President (Dr. E. W. Hope) referred to the very large voltage used, and also to the effect that the new apparatus was "tool-proof." The real object of the investigation was the prevention of infant mortality. 25,000 children had been fed from sterilised "humanised" milk in Liverpool in the last 15 years with the most excellent results, but he realised that they had now come to a much better way of dealing with the milk.

Mr. G. C. E. Simpson drew attention to the biochemical aspect of the problem of milk sterilisation, mentioning the work of Fröhlich, Holst, and Funk. His own work had shown that the present method of preparation by the Liverpool Corporation did not destroy all the essential antiscorbutic vitamins of fresh milk. He

suggested a trial of the biochemical properties of the milk treated by the high electric currents before it was used widely.

Dr. R. Stenhouse Williams regarded the method practised by Prof. Beattie as the best yet discovered, since from the chemical standpoint it left the milk practically as in the raw condition. At the same time the question of its effect upon vitamins was in doubt, and the importance or otherwise of this in sterilised milk used for children should be absolutely settled before any such method was officially adopted. In his view the question was whether they ought not rather to improve the methods used in the taking of the milk instead of covering up bad work by sterilisation.

Mr. Golding (Reading) required more investigation from the chemical and biochemical point of view. He mentioned that copper electrodes might erode and precipitate copper in the milk and produce a taint, and inquired if this method had been applied to water, and what the probable cost might be.

Dr. J. Murray Bligh held that the value of the process depended upon the results obtained by feeding the milk so treated to children. Sterilisation of milk was a retrograde movement.

Professor Beattie, in his reply, admitted that a clean milk supply was certainly the ideal, but if it proved impossible to obtain an adequate supply of pure milk then sterilised milk was essential. He agreed that the whole system should be tested for one year before being set up elsewhere.—*The Lancet*.

The Mallein Test for Glanders.

Dr. J. R. Mohler, of the U.S.A. Department of Agriculture, contributes the following letter to *The Breeders' Gazette*, Chicago:—

"You submit to me a letter from one of your readers in which he quotes some unfavourable experiences in testing horses for glanders with mallein. His statements are somewhat exaggerated and furthermore his quotations on the results of the different investigators are not entirely accurate. Thus for instance in Hungary out of 570 reactions 536 showed lesions of glanders on post-mortem, and in other statistics from Hungary out of 1,385 reactors 1,313 showed lesions of glanders. My compilation, which includes many thousands of mallein reactions, showed the test to be reliable in about 90 per cent. of the cases.

While mallein and tuberculin are somewhat similar biological products, the general opinion of those who have had extensive experience with both of these agents is to the effect that subcutaneous injection of tuberculin has proved to be far more reliable in diagnosing tuberculosis than subcutaneous injections of mallein in detecting glanders.

The subcutaneous mallein test has unquestionably accomplished good results, but the fact that a certain percentage of horses free from glanders react to the test has made a more accurate method of diagnosis desirable. The serum tests, which at present constitute the official tests in Germany, are without doubt the most reliable means of diagnosing glanders. In our work the serum tests, known as the combined complement-fixation and agglutination tests, have proved reliable in 99 per cent. of cases. As these tests are delicate laboratory tests they are not available to the practising veterinarians.

We have been for some time engaged in extensive investigations with the ophthalmic mallein test, and from all indications this method will offer the most accurate means for diagnosis available in general practice. It is more reliable and also simpler in its application than the subcutaneous mallein test, and in its inter-

pretation there is less chance for error. Should the eye test give a non-typical reaction, the serum of such an animal may be readily tested by the combined serum tests, which is not the case after a subcutaneous mallein test, since the subcutaneous injection of mallein interferes with the interpretation of the serum test for at least thirty days."

About Mendelism.

In 1791 a Massachusetts farmer, by name Seth Wright, found in his flock of sheep a male lamb with a long, sagging back and short bent legs, somewhat like those of a German dachshund. It at once occurred to this hard-headed Yankee that if he could get together a flock of short bow-legged sheep a good deal of unprofitable labour in the shape of building high fences would be saved, and, incidentally, he would have more time at his disposal for swopping lies about his corn crop and pumpkins, under the verandah of the local country store. So it came about that he mated this curiosity of the flock with ordinary sheep, putting the young ewes back to their own sire. By this means in a very short while he evolved a true-breeding race of short, bow-legged sheep, since known as the Ancon breed.

There are two highly significant conclusions to be drawn from Seth Wright's breeding experiment. We see first that the *male alone* may be the originator of a particular breed, and, secondly, that, without the aid of alternative heredity (Mendelism), Seth Wright could never have built up the Ancon breed from a single male lamb. Had not the characters he desired segregated clean from those of the ordinary sheep which he had to use in the first instances for his females, the new characters would inevitably have become swamped by opposing weight of ancestry.

A similar case may be cited in the hornless breed of Hereford cattle of the United States, which all arose at a place called Atkinson, Kansas, in 1889, from a single hornless Hereford bull. These polled Herefords now constitute one of the bovine aristocracies of America, with a herd-book all to itself.

The British breed of Shorthorn cattle consists of a vast medley of female tap-roots. In fact, any heifer is eligible for the herd-book which can show four pedigree male crosses, and but five are necessary for the insertion of a bull in its pages. For entry in the French Shorthorn herd-book the last sire in the pedigree must have been born in or before 1830, but there is no stipulation about any female tap-root. The Argentine people are satisfied with even less. All that they ask is that the last sire on the female side shall have been born in or before 1845, and there should be no unregistered males in the pedigree after that date.

What are the tap-root of the Hackney, the Shire, or the Clydesdale? There is every sort of a mare at the bottom of the Hackney's pedigree; and yet there is no domesticated animal which breeds as true to his own particular type. Again, the Shire horse owes his characteristics solely to his Flemish male ancestors. A little over a hundred years ago there was not a single heavy mare in the hands of a Lancashire farmer, and yet the light mares of the county are the female tap-roots of the weighty and hairy-legged breed of Shires! Finally, the Clydesdale arose from a cross of the Highland Garron and Flemish stallions introduced by one of the Dukes of Hamilton.—*L.S.J.*

Cocconut Residue as Cattle Food.

After the extraction of the fat, which is used in the manufacture of industrial products, like soap, candles, etc., the residue is compressed into a cattle-food cake. The greater part of the cocconut cake made in England

and on the Continent finds a ready sale in Continental markets. The following analysis is taken from a recent publication called *Invest in the Tropics* :—

	Fats.	Carbo- hydrates.	Albu- minoids.	Water.
Cocoa cake	11.2	47.4	18.2	9.4
Oil palm „	9.5	55.4	16.1	10.5
Linseed „	8.9	27.5	24.8	12.2

Cavalry Remounts—Canadian Horse-breeding Scheme.

The Government have authorised the Militia Department to lease to the National Livestock Exchange 65,000 acres of land 60 miles north of Medicine Hat and south of Red Deer River, for the purpose of collecting and producing thereon half-bred cavalry remounts. The company will pay an annual rental of two cents, an acre, and must produce from thoroughbred sires or thoroughbred mares remounts to the number of not less than 1,500 each year after 1916. The Government of Canada are to have a right of pre-emption in respect of all horses raised by the Exchange, and the company must hold and mature until the age of 3½ years all horses which the Militia Department may desire for military purposes. The price to be paid is not to exceed 250 dols. (£50) a head.

It is further agreed that the British War Office may have pre-emption rights at the same prices and terms in respect of such horses as remain "after the Minister has made his choice."—*The Times*.

The Mule in U.S.A.

The mule is without equal for work in the mines, logging camps, or for trucking and delivery purposes in the large cities. He is a hard worker and, contrary to popular supposition, is one of the most tractable work animals. The idea that the mule is unruly is without grounds; breeders and farmers who have worked thousands of them assert that mules that are downright shirkers of work are not common. Where the mule is well treated as a colt he develops into a willing worker that possesses the ability to resist disease, to withstand the strain of severe labour, and to accomplish more work on less feed than can the horse. Where comparative estimates have been made it has been found that a much lower percentage of mules are bad-mannered than of horses. A particularly commendable trait in the make-up of the mule is that he takes good care of himself, with the consequence that one rarely hears of a sick mule. You seldom hear of one being troubled with founder or dying from colic, simply because this beast is intelligent enough to know when he has eaten sufficient feed; once his hunger is satisfied nothing will induce him to eat more. Unlike the horse, the mule is not attracted by the uncovered grain bin.—*The Ohio Farmer*.

The Cost of Swine Fever.

At a recent meeting of the Central Chamber of Agriculture, Mr. C. Bathurst, M.P., said that, in answer to a question of his, Mr. Runciman had stated that during the five years (1903-1907) prior to the issue of the existing Orders, there were 7,107 outbreaks of swine fever, as compared with 11,207 during the five years (1909-1913) since the issue of those Orders. During the five years prior to the issue of the Orders there were 36,046 pigs slaughtered as diseased or exposed to infection, and during the five years since the issue of the Orders there were slaughtered 131,980 pigs. With regard to the cost of administration and compensation, the figures were as follows :—Compensation during the

first year that the Order was in operation (1908-9), £17,170; administration, £39,608. In 1909-10, £18,53 for compensation, and £44,244 for administration. In 1910-11, £21,288 for compensation, and £48,669 for administration. In 1911-12, £51,351 for compensation, and £62,059 for administration. In 1912-13 there was slight falling off in the compensation, owing probably to the reduction in the pig population. There was £46,952 for compensation and £66,390 for administration. These figures made a grand total throughout those five years of £423,262 out of public money expended in compensation and administration.

The pig population was steadily decreasing in this country, unlike any other country in Europe. The national Bill for the extermination of the disease was steadily rising, and the trade in pigs was equally constantly declining. The Board of Agriculture could not stamp out this disease, and for this reason—the disease existed in a large number of animals which showed no obvious or discoverable symptoms of the disease whatever, and such pigs were capable of spreading the disease to others. It was impossible to defend the existing vexatious and harassing restrictions when there was the possibility of the disease being spread from pigs which showed no sign of the disease.

Mr. Wood Homer pointed out that before the Order of the Board five years ago there was in operation a system of local control which many of them thought more efficient than the control effected by the Swine Fever Order, and Mr. Bathurst admitted that the present system had proved less efficient than the local control was.

A Veterinary Scheme for Co. Dublin.

At the April monthly meeting of the County Dublin Farmers' Association, Mr. McGrane introduced the subject of a scheme of veterinary attendance and advice for members on special terms. He pointed out that the desirability of making some definite move in this direction could not be gainsaid, and he understood that they would find a hearty co-operation from the members of the veterinary profession if a start were made.

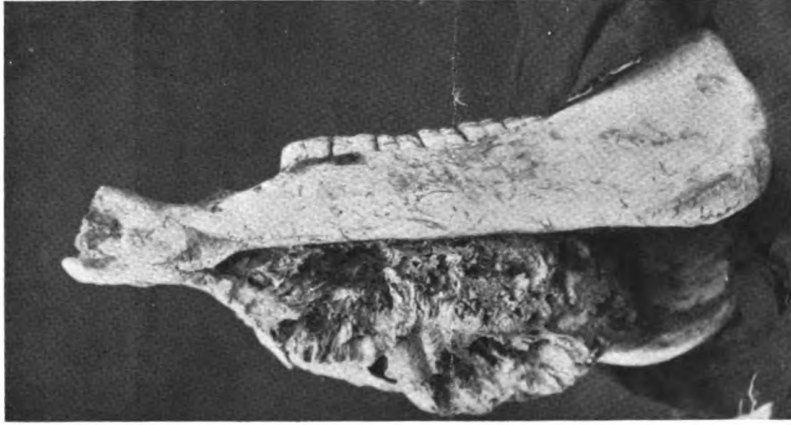
Mr. Grimes stated that he was strongly in favour of a move being made in the direction intimated, and said that already they had been in consultation with the Veterinary Medical Council of Ireland.

Eventually it was proposed by Mr. McGrane, seconded by Mr. Grimes, and passed :—"That a small committee be appointed to formulate a scheme for veterinary attendance."

Dairy Calves—A suggestion.

The following is quoted from *The Breeders Gazette*, Chicago :—

"It is a serious loss to the country to breed nearly all these cows to either scrub or dairy-bred bulls, making it almost necessary to sell the calves for veal. One cow during her life should produce eight calves. On an average four of these will be males and four females. The keeping of one of these four females for the dairy herd would maintain such a herd at constant size, with no losses from disease. The keeping of two heifer calves out of every four heifers born should be enough to permit a certain amount of culling and allow for an increase in the herd. Why not then breed half the cows on our farms to dairy-bred sires, vealing the male calves and retaining the heifer calves for the herd? If the best half of the cows were to be bred to a dairy sire and the other half to a beef sire, feeding all the offspring from the beef sire for beef, we should be following a system which would reproduce the highest efficiency in beef and dairy produce."



The accompanying photos show an osteosarcoma of actinomycotic origin on the jaw of a four-year-old filly. The condition was produced in less than a year.

F. E. PLACE, B.V.Sc., M.R.C.V.S.

Splenectomy and Increased Resistance to the Tubercle Bacillus.

Some striking experiments upon the results following removal of the spleen in mice and rats, which appear to demonstrate an increase in the power of resistance to the tubercle bacillus, have been recorded by Lewis (Paul A.) and Margot (A. G.) in the *Journal of Experimental Medicine* (1914, Vol. XIX., p. 187). Into the peritoneal cavity in 21 albino mice was injected a culture of bovine tubercle bacilli; the quantity varied from 1 to 5 mgr. in different animals. Within a time varying from a few hours to a few days all these animals died, and post-mortem examination showed extensive infection of many organs. A similar proceeding applied in 13 mice of similar weight, from which, however, the spleen had been removed, but which had fully recovered from the effects of the operation, showed that a marked lessening of the effects of the inoculations had occurred. Four of the animals were still living at the time of writing, and the rest survived a longer time than did the non-splenectomised animals. Further, the range of infection was more limited in the body. Similar results were gained in rats. In order to test the strength of the possible objection that the mechanical effect of the removed spleen altered in some way the character of the peritoneal inoculation, a second series of animals was inoculated into the pleural cavity. Ten controls all died; of the ten splenectomised animals, two survived, and the rest, again, lived for a much longer time. In this series, too, the range of infection was limited. Similar experiments upon guinea-pigs and dogs were not successful, and the same results were not gained.—*The Lancet*.

Magnesium Sulphate Treatment of Tetanus.

It has been shown that tetanus antitoxin is incapable of combining with and neutralising tetanus toxin when the latter is anchored to the nerve cell. For this reason anti-toxin does not appear to exert any curative action in severe cases—at all events, after the symptoms are well marked. Recent researches have brought to light two other methods of treating severe tetanus—the magnesium sulphate treatment of Meltzer and Auer, and the carbolic acid treatment of Baccelli. The magnesium treatment depends on the anæsthetic effect of magnesium in the animal body. When applied intramuscularly or intravenously, the sensory nerves are first paralysed, then voluntary movement is arrested, next the respiratory centre is paralysed, and lastly, if the animal be kept alive by artificial respiration, the muscles of deglutition and the vasomotor centres are paralysed. After subcutaneous injection, the anæsthesia which follows is flaccid and respiratory paralysis sets in later, while when applied directly to a nerve trunk it acts like cocaine in cutting off the nerve path. It has further been shown that the symptoms and signs of magnesium anæsthesia can be completely checked and removed by injections of calcium salts. It appears from the pharmacological experiments that the circulation is but little affected in magnesium poisoning. Respiratory failure can be arrested by the application of physostigmin or by insufflation of oxygen. Further, it has been shown that in anæsthesia produced by lumbar injections of magnesium salts washing out the lumbar sac suffices to remove dangerous symptoms of respiratory failure. The depressant effect in tetanus was first studied in animals and was then applied to man, 25 per cent. solutions of magnesium sulphate being injected in doses of 1·2 c.cm. per 10 kg. body weight.—*Brit. Med. Journal*.

Augmentation of Bacterial Toxicity by Distilled Water.

In 1912 Hort and Penfold, working in the former's laboratory at the Lister Institute, brought forward evidence to show that variation in the volume of the diluent has a profound effect upon the toxic action of bacterial cultures. If, for example, constant fractions of a broth culture of *B. typhosus*, suspended in small constant volumes of freshly distilled water, were injected intravenously into healthy rabbits, it was found that the toxic effect as expressed in fever was also constant. If, however, the small quantities of water were replaced by large quantities—the fraction of broth culture remaining constant—it was found that death often ensued in an hour or two. Control observations showed that neither fever nor death was ever produced by injection of pure water alone, either in small or large quantities—that is, within the limits recorded. Death never followed the injection of small fractions of broth culture either alone or in small quantities of water. A similar augmentation of toxic effect was also produced, though not constantly, by substitution of normal saline for water. Finally, it was shown that the effect could be produced by injecting the water or saline before the broth cultures. In a paper appearing in our issue of Feb. 14, Penfold and Violle record the results of further experimental work conducted on similar lines. These authors now show that distilled water administered simultaneously with, or prior to, the culture or filtrate markedly increases the toxic action of many organisms, and notably of the cholera vibrio, with which the majority of the experiments deals. Extremely minute quantities of culture or filtrate which would, if given alone, be completely atoxic are rendered acutely and fatally toxic when administered with distilled water. With regard to the explanation of this action, the authors show that hæmolysis of red cells plays at least some part. Administration of the culture with a quantity of lysed red cells, which by itself would be quite atoxic, produces fatal intoxication. It is well known that many cholera strains secrete a hæmolysin, while other organisms which do not possess this power are, however, able to break down red cells when growing in actual contact with them. It is possible, therefore, that the form of intoxication described by Hort, Penfold, and Violle may shed some light on the etiology of certain types of bacterial intoxication which at present are little understood. Doubtless, also, it may have an important bearing on problems associated with anaphylaxis.—*Brit. Med. Jour.*

A New Physiological Hæmostatic.

Attention is drawn in a recent number of *Il Morgagni*, No. 17, March 22nd, 1914, Milano, to the use of the fibrin ferment of the blood as a valuable hæmostatic. This substance is to be found in all the cells of the organism and extracts of all fresh organs contain it. As prepared by Zanoni it exists as a fine powder, of a colour varying from light to dark yellow, slightly unctuous to the touch, and with an odour like that of goose fat. It is slightly hygroscopic and but little changed by light and air, sparingly soluble in water and chloroform, and less still in 95 per cent. alcohol. Aqueous solutions are not limpid, are markedly opalescent, and leave an insoluble residue; they cannot be filtered since most of the ferment remains on the filter. They must therefore be used as they are. This substance which Zanoni has named "coaguline," reduces the time required for the formation of blood clot from 15 minutes to 1 minute. In other words, the blood coagulates almost immediately in the presence of coaguline, and

this power is retained for at least five to six months when it is preserved in the form of powder; after this it gradually diminishes. Certain preparations, however, have remained strongly active even after a year or more. The coagulating power of coaguline resists heat to a certain extent, for even after heating the powder or solution to 95°C. in a water bath its activity is still manifest, although somewhat weakened. This necessitates the time and temperature for sterilisation being reduced to a minimum. To ensure a full hæmostatic action it is not enough to apply the powder or solution to the bleeding surface since the blood would wash it away before it had time to complete its coagulating action; it must be kept *in situ* for a short time with a pledget of cotton or gauze and with slight pressure. The solution can be injected into cavities and operation wounds, but for hypodermic use a solution having an insoluble sediment is not suitable. To obviate this the author found that by incorporating the coaguline with sugar an opalescent solution could be obtained with water which could be sterilised by heating.

The Effects of Light on Bacteria.

The experiments of Mme. Victor Henri, which have led to the discovery that the character of bacteria can be changed by the action of ultra-violet light, receive confirmation in this country by somewhat similar effects that have been recently produced with visible light of longer wave-length. Bacteria have been grown continuously, and repeatedly sub-cultivated, under the influence of certain definite regions of the spectrum, with remarkable results both on their colour and on their size and rate of growth.

The most interesting results were perhaps those obtained with yeasts; fermentation in shallow vessels flooded with deep orange light took place with nearly twice the ordinary rapidity, but violet light was found to retard the process. Bacteria of pronounced colours, due to natural pigmentation, have also been cultivated in tubes placed under the direct rays of the spectrum, and in some cases the colour of the bacteria has disappeared. Orange-coloured cocci treated in this way and grown in blue light for several weeks became perfectly white, and their loss of pigmentation appears to be permanent, as when grown again under normal conditions successive sub-cultivations remained white. Their pathogenic properties have not so far been tested, but it now seems probable that these also would be changed.

The Craze for Appendicectomy.

To the Editor of *The British Medical Journal*.

Sir,—The writings in the *Journal* prove that the damage which is done to the abdominal wall in removing diseased appendices is necessary; it is also plain that the abdominal wall should not be wounded to remove a normal appendix. The question at issue is one of skill, the ability to diagnose a diseased appendix.

It is to be regretted that surgical interest in the function of this caecal vestige has become less and less as the erroneous deduction of the lymphoid hypothesis has tended to mask the true nature of the appendix; for the study of the vestigial nature of the apical portion of the human caecum throws a flood of light on the diseases of the large bowel in relationship to their causation and treatment.

It is not well recognised that man's digestive tube has been evolved to deal with a combination of carnivorous and herbivorous foods, and that neglect of the latter fact is responsible for the diseases of the large bowel and for dental decay.

Our authorities openly avow that they do not know the function of the ileo-caecal valve, a structure that was evolved when ancestral man was compelled to eat coarse herbage, for the purpose of preventing the regurgitation of caecal content into the ileum, to the hampering of the function of the small gut—namely, that of absorbing ingesta which the stomach had prepared for absorption. The function of man's caecum is to digest coarse vegetation; it reached its highest development when ancestral man ate uncooked herbage. During the digestion of such material much gas is generated and the tension ruptured the external muscular coat in the region of the ileo-caecal valve. In the atrophied caecum of civilised man the ruptured part of the caecum exists as the banded caecum and its unruptured apical part as the vermiform appendix. The peculiarity of the ruptures sustained by the human caecum explains the extreme rareness with which the vermiform appendix appears in the animal kingdom; it occurs only in man, a few anthropoid apes, and the wombats. The changes in the human caecum are all traceable in the primate mammals. They accentuate the fact that appendicitis is primarily due to lack of coarse vegetation in the food of civilised man; they indicate that diseased appendices are often associated with large bowels that are weakened from long disuse. Perhaps the severest criticism that can be made against the surgery of the vermiform appendix is that the scar in the abdominal wall is a sign of man's stupidity in not eating that food for which his digestive tube has been evolved.—I am, etc.,

WALTER STAPLEY, M.D., M.R.C.V.S.

Cambridge, New Zealand.

REVIEW.

THE COMMON COLIC OF THE HORSE, THEIR CAUSES, SYMPTOMS, DIAGNOSIS, AND TREATMENT.—By H. CAULTON REEKS, F.R.C.V.S., Examiner in Pathology and Bacteriology to the R.C.V.S. Third Edition. Crown Octavo. Pp. xvj. + 369. Thirty-two Illustrations, many of which are new. Price 6s. net. (Baillière, Tindall & Cox, 8 Henrietta Street, Covent Garden, London).

It is now nearly twelve years since Mr. Reeks first published this book. Hardly any veterinary work has been more widely read and discussed since then, or has exercised more effect upon everyday practice. Its teaching is far from being universally accepted, but there is no doubt that it has profoundly modified the ideas and methods of many clinicians who certainly would not endorse the author's views in their entirety. That being so, a new edition is always welcome, and the present one—the third—is rendered all the more so by the inclusion of much new matter, some of it highly controversial.

The work is so well known that a review may fairly be confined to the new matter. This comprises six chapters, amounting altogether to over 100 pages. One chapter deals with subacute obstruction of the caecum, three with displacements of the double colon, one with the possibility of spontaneous reduction of the bowel in torsion, and one with the comparative rarity of enteritis.

In the chapter upon caecal obstruction, the four cases seen by Professor Gofton (who gave the first clear account of the condition in 1912) are described. One case of the author's is added, with much detailed discussion—largely based upon the work of Major-General Smith. The author thinks that these cases may be commoner than is supposed, that at present they should not be regarded as necessarily hopeless, and that their causation may be explained by adopting Smith's heterodox view of the passage of food direct from the ileum

into the colon. If the latter is the common course of the food—and there is much to support Smith's view—it is easy to see that interference with it may cause cæcal impaction. This chapter is valuable, and the succeeding one upon displacements of the double colon is more so. Space enables us to say very little of these. Mr. Reeks regards displacements of the double colon—including slight displacements or partial twists—as very common indeed. Diagnosis and treatment are fully dealt with, and the section contains a detailed account of the Continental method of reducing such displacements by rectal manipulation. So far as we know, the author is the first Englishman to attempt this procedure, and his experience, which includes some successes as well as failures, is reported with commendable frankness.

In other pages the author maintains that spontaneous reduction of some intestinal torsions is possible, and regards the cases often diagnosed as enteritis as nearly always due to strangulation from partial or complete twist. The new illustrations are all helpful, and altogether the fresh matter alone is well worth the cost of the whole book.

In future editions, some recasting might be advisable. Passages still remain from the first edition which—considering the later development of the author's views—might now be deleted without loss. Again, we should like to see a fuller account given of stomach tubes, and we think that the work ought now to include some consideration of verminous colic. But we can only describe the present edition as likely to be even more suggestive and valuable than its predecessors. Controversial it

still is, and will probably always remain—the added chapters certainly do not make it less so. No book has done so much as this one to stimulate practitioners to examine and think out each individual case of colic as a separate problem, and that invaluable feature becomes more marked with each edition.

W. R. C.

Election of Council R.C.V.S.

The following is the list of gentlemen who have been nominated. There are eight vacancies.

Proposed by

J. ABSON, Sheffield,	Sir J. M'Fadyean,
G. A. BANHAM, Cambridge,	R. C. Trigger.
J. W. BRITTLEBANK, Manchester,	W. J. Mulvey,
J. C. COLEMAN, Swindon,	G. H. Locke,
P. J. HOWARD, Ennis,	E. H. Stent.
A. W. MASON, Leeds,	W. F. Barrett,
W. SHIPLEY, Gt. Yarmouth,	S. H. Slocock.
H. SUMNER, Liverpool,	E. C. Winter,
T. C. TOOPE, Dover,	J. McKenny.
	J. Clarkson,
	J. Abson.
	Sir J. M'Fadyean
	F. W. Garnett.
	J. B. Wolstenholme,
	W. J. Mulvey.
	E. L. Dixon,
	J. Crowhurst.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.		Out-breaks	Slaughtered.*
	(a)		(a)		(b)		(b)		(b)	(a)	
GT. BRITAIN.											
Week ended April 25	23	25			2	2	36	57		129	1529
Corresponding week in											
1913 ...	19	19			5	15	50	113	2	85	1441
1912 ...	18	18			3	6	54	93	1	91	1101
1911 ...	22	28			4	4			3	78	782
Total for 17 weeks, 1914 ...	315	337	11	74	32	77	1109	2023	139	1165	11358
Corresponding period in											
1913 ...	234	251			59	193	1243	2598	112	690	9330
1912 ...	394	444			57	132	1771	3972	150	1106	14025
1911 ...	342	398	1	18	71	214			292	755	7969

(a) Confirmed. (b) Reported by Local Authorities.
Board of Agriculture and Fisheries, April 28, 1914

† Counties affected, animals attacked: London 2.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.		Out-breaks	Slaughtered.*
	(a)		(a)		(b)		(b)		(b)	(a)	
IRELAND. Week ended April 25	...	...	2	7	...	...	2		3	3	6
Corresponding Week in											
1913 ...	...	...	...	...	...	...	2		7	2	35
1912 ...	...	...	...	...	...	...	...		7	4	44
1911 ...	...	...	...	...	...	...	1		8	1	67
Total for 17 weeks, 1914 ...	...	...	67	892	...	...	39		311	91	391
Corresponding period in											
1913 ...	...	...	...	...	...	...	79		245	48	294
1912 ...	1	1	...	...	...	...	31		240	87	712
1911 ...	3	3	...	...	1	2	37		224	45	799

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, April 28, 1914
NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

"Research."

In recent years the word Research has grown as familiar in our ears as "Art" and "Hygiene" were in the not distant past. One is apt, from mere habit, to associate the term mainly with Chemical and Biological problems connected with medical work, but work goes on continuously in other directions, and not the least valuable are those links which connect up "pure science" with practical utility. In *The Popular Mechanics Magazine* is given a brief account of recent additions in this direction to the University of Pittsburgh, U.S.A., from which the following excerpt is taken. It is just one more example of the appreciation of the abilities and enthusiasm of the younger men in other countries which is so wastefully lacking in Great Britain.

"How can we make better bread?" asked a big baking company of the late Prof. Robert Duncan, director of the Mellon Institute. The first step in finding the answer was to put a trained chemist at work in one of the institute's laboratories. The baking company paid him a salary of 750dols. a year for two years, and offered him a prize of 2,000dols. if he found a satisfactory answer.

Before he had finished his experiments, another baking company asked the same question. They offered 4,750dols. a year for two years and a prize of 10,000dols. for any practical results. And the chemists got results—found not only one answer but a dozen answers—found how to make better bread, while at the same time cutting down the cost of manufacture; found how to make "salt-rising" bread of better quality than the kind grandma used to make. They found out, in short, so many interesting and valuable facts about the chemistry of breadmaking that the companies which are now utilising these facts are already saving probably more than 250,000dols. a year in the cost of their produce and giving their customers better bread than they have ever had.

INDUSTRIAL FELLOWSHIPS.

Dr. R. K. Duncan, at that time Professor of Industrial Chemistry in the University of Kansas, suggested in 1907, in a book on chemical problems, that a practical means of giving American industry the benefit of the best scientific research might be found in the establishment of what he termed "Industrial Fellowships," in some university.

He proposed that the manufacturer should lay his particular problem before the university authorities, paying an annual sum sufficient to provide a fair salary for a skilled research worker for a limited time, and offering a prize either in the form of a cash bonus or an interest in the profits derived from the discovery, if the problem were solved. Several manufacturers took up the idea, and a number of industrial fellowships were established at the University of Kansas. The idea spread, the University of Pittsburg invited Dr. Duncan to take charge of similar work at that institution, and the Mellon Institute is the result. Secrecy is the rule at the Mellon Institute—the protection of the trade secrets of the manufacturers in whose interests the research work is being done, in order that they may reap the benefits of their investments in the fellowships. Yet every contract between an industrial company and the Institute contains a provision insuring the eventual publication, after a reasonable lapse of time, of the results obtained, for the benefit of the whole industrial world.

"We are now testing, in a unit plant, a new method of extracting copper at a profit from 'tailings' and low-grade ores, which were formerly of little or no value.

Some of our fellows have made important discoveries relating to the hardening of fats by catalysis. An interesting research now under way deals with the purification of sewer grease for use in soap making."

"The utilisation of leather scrap; a method of making glass of a new and distinctive colour; the whole subject of the chemistry of glue, of which little is known; methods of coating steel with copper; questions dealing with the utilisation of natural gas; the production of cement, and the corrosion of steam radiators—these are among the practical, present-day industrial problems which are being attacked under these industrial fellowships. Most of them will be solved. There have been but two failures so far to get the results sought, and these were such as to reflect no discredit on the institute."

Brain in Birds.

The brain in birds is large in proportion to the body. If we admit that intelligence depends upon the weight of brain, then the goldfinch must be placed about the top of the list of birds. In this handsome, clever, and active fellow, the brain weighs one-fourteenth of his whole body. It must be remarked, however, that attempts to draw conclusions as to the intelligence of certain birds from a comparison of the weight of the brain with that of the body have been considered futile. In man, the brain forms from 1-22d to 1-33d of the whole body; in the canary, 1-14th; the sparrow, 1-25th; the chaffinch, 1-27th; the redbreast, 1-32d; the Amazon parrot, 1-42d; the blackbird, 1-68th; the duck, 1-257th; the eagle, 1-260th; the goose, 1-360th; the domestic hen, 1-412th. The goldfinch can be taught to perform a number of tricks. He can draw up water and food by an apparatus designed for the purpose; he can pretend to be dead; and, without showing fear, he succeeds in firing off a cannon. By some, the preternaturally cunning raven is supposed to be the most highly developed of birds. His courage is so great that the eagle respects it; and his intelligence prevents him from getting into unseen though suspected dangers.

Flies and Disease.

Dr. Edward Halford Ross lectured recently before the Royal Society of Arts on "House Flies and Disease." In describing the work of his brother, Sir Ronald Ross, on malaria, he told in detail the story of how the town of Ismalia on the Suez Canal was converted from a deadly to a perfectly safe place.

Research has shown that flies may convey ophthalmia, cholera, tuberculosis, swine fever, and possibly diphtheria and small-pox. They also carry the deadly summer diarrhoea of children which in 1910 killed 1,811 children under two years of age in London.

"At Cairo, during the spring of 1909, Dr. Ross said, 'When I was health officer of that city there, the summer was ushered in by a heat wave on May 1, and the temperature rose to 102° F. in the shade. Fourteen days later the greatest plague of flies ever remembered appeared in the city. Food, milk, and fruit were contaminated by them. Then began the illness and death of the newly born, not only the first born as in the Biblical story. In two months 3000 children under five years had succumbed to enteritis.'"

Mr. HUGH FERRIER, the Corporation veterinary surgeon, reported to a meeting of the Public Health Committee of Dundee Town Council that glanders had broken out in the city, and the Committee decided to shut off the water in the street drinking troughs for a period of three weeks, and to advise horse-owners to carry pails for providing their horses with water while at work.

Sterilization of the Hands by Thymol.

Monzardo (*Gazz. degli Osped.*, Nov. 13th, 1913) points out some of the disadvantages of the iodine treatment of the skin (staining, skin irritation, and hardening), and then describes a treatment he has used for the last year. This consists in the use of an alcoholic solution (5 per cent.) of thymol, used pretty much in the same way as iodine. The author has performed 100 hernia operations, 53 laparotomies, and many surgical operations, as well as obstetric work, under his method of disinfection, and is well satisfied with the results. The solution, he says, is non-toxic non-irritating to the skin, does not affect instruments, and is at least as powerful as iodine as a disinfectant.—B. M. J.

The Local Names for Sheep.

The following list of the different names, according to age, sex, etc., given to sheep may be useful as well as interesting.

From birth to weaning the male is variously called a "tup-lamb," "ram-lamb," "pur-lamb," or "heeder"; if castrated, a "hogg-lamb." The female is a "ewe-lamb" or "gimmer-lamb." Generally a sheep is a lamb until weaned; but in the South of England, and especially among the Kent or Romney Marsh "keeping" sheep, the animals are "lambs" until they are a year old; the keeper taking lambs, wethers, or ewes, as the case may be, although the former are, of course, weaned long before sending out for winter keep.

From weaning to first shearing the male is a "hogg," "hogget," "hagerel," "hoggerel," "tup-teg," "lamb-hogg" or "tup-hogg"; if castrated, a "wether-hogg" or "he-teg." The female is a "gimmer-hogg," "ewe-hogg," "sheeder-ewe," or "ewe-teg." Hogget wool is wool of the first shearing, but in these progressive days lambs are sometimes shorn in the first year, and this is calculated to introduce some confusion.

From the first to second shearing the male is a "shearing," "shearling," "shear-hogg," "dinmont," "diamond ram," "ram-tup," or "one-shear tup"; if castrated, a "shearing-wether," "shear-hogg," "wether-hogg," "wedder-hogg," or "two-toothed wether." A female is a "shearing ewe," "shearing-gimmer," "theave," "gimmer," and "double-toothed ewe or gimmer." A "yeld-ewe" is one that has ceased to give milk, and a "draft-ewe" or "draft-gimmer" is one that has been drawn from the breeding flock.

From the second shearing to the third the male is a "two-shear ram," etc.; if castrated, a "four-toothed wether" or "two-shear wether or wedder." A female is a "two-shear ewe." She is a ewe if in-lamb; if not, a "barren gimmer"; or, in Scotland, if not put to the ram, a "yild gimmer." From the third to fourth shearing the male is a "three-shear ram or tup"; if castrated, a "four-toothed wether" or a "three-shear wether"; if female, a "three-shear" or "winter ewe."

Afterwards the ram is an "aged tup"; the wether "full-marked" or "aged"; and the ewe, aged or "three winter." In the North "shearing" is employed as indicating age, while the south countryman speaks of "teeth," the term, of course, having reference to the eruption of the permanent incisors. Quite recently we met a farmer who, until he received ocular demonstration, refused to believe that a sheep had no incisor teeth in the upper jaw. It may be news to others to learn that both sheep and cattle are there furnished with what is called a dental pad instead of teeth.

VETERAN, in *Farm and Home*.

The Horse in U.S.A.

Says an American journal, "The horse is coming back. In all sections of New York, especially on Broadway and Fifth Avenue, the horse-drawn vehicle, public and private, is coming into its own again. The novelty of the automobile is wearing off along with the price, and people who ride for pleasure are turning back to man's tried and true equine friend. With the horse the hansom cab is coming into favour again, and they may be seen now in large numbers before all the big hotels and at the public hack stands. Five times as many horse cabs are in evidence now in New York as were used a year ago."

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, April 24.

REGULAR FORCES. ARMY VETERINARY CORPS.

Col. F. W. Forsdyke is placed on retired pay. Dated April 25.

Brev.-Col. E. R. C. Butler, A.V.C., to be Col., *vice* F. W. Forsdyke. Dated April 25.

April 28.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Lieut. A. W. Reid to be Capt. Dated March 12.

F. J. Moon to be Lieut. Dated March 20.

Personal.

TRENCHARD—WARE.—On 28th April, at St. Mary's Church, Bridgwater, by the Rev. W. E. Catlow, Hugh, eldest son of Hugh Trenchard, J.P., of Enfield, to Dorothy, youngest daughter of the late Edwin Ware, M.R.C.V.S., Consulting Veterinary Surgeon to the County of Somerset, and Mrs. Ware of Bridgwater.

Mr. DAVID ROWBOTTOM SOWERBY, M.R.C.V.S., of 105 Anlaby Road, Hull, for many years an Inspector, under the Board of Trade, of the Exportation of Horses, left estate of the value of £9,815.

PRESENTATION TO MR. JOHN BROWN, F.R.C.V.S.,
INVERGORDON.

Over a hundred people, representative of all classes in the agricultural community, gathered in the Royal Hotel, Tain, on Friday, April 3, when the presentation was made to Mr. John Brown, F.R.C.V.S., Invergordon, who for over 20 years now has been the untiring servant of the agricultural community of Ross-shire and Sutherlandshire and particularly of Easter Ross.

Recently a committee was formed to arrange for a presentation to Mr. Brown. Mr. W. G. Paterson undertook the duties of convener, and Mr. A. B. Davidson, Kincaig, the secretaryship, with the result that a handsome sum of money was collected, and the promoters were able to give Mr. Brown a motor car, which in the circumstances is the most suitable gift that could have been provided.

Mr. Paterson, in making the presentation, said he thought they could congratulate themselves on the successful termination of the work which they undertook. When the project was first started there was a large and influential attendance, and from that moment the promoters felt that they would have no difficulty in carrying out what they wanted. He was glad to say that they had been more than able to realise their aims: they were now able to present him with a car

and it would be the most useful gift they could give him. Mr. Brown had been in the district for over 20 years. He came as a young man, fresh from college, and newly off the irons. He had the good sense to choose Invergordon, and there he had abided. After a little time they found he knew his work very well, and they appreciated his abilities. During the past twenty years their appreciation had increased yearly, and they had profited by his experience. But experience was not enough in his profession. The profession was rising daily, and Mr. Brown had certainly kept himself up-to-date. He thought the honour done that day to Mr. Brown was just what was wanted to show him how the farmers of Easter and Wester Ross appreciated him. In conclusion Mr. Paterson said—In the name of the subscribers I have pleasure in presenting you with this motor car, and I am sure it is the wish of all that you will enjoy good health, and that it will be a comfort to you in the wide district over which you operate. (Loud applause.)

Mr. Paterson said he had another pleasant duty to perform—to present to Mrs. Brown a silver service. They had hoped from the beginning that they would be able to associate Mrs. Brown with the presentation, she had helped Mr. Brown very much in his work. They were delighted that they had been able to give her those things. They wished Mr. and Mrs. Brown long life and prosperity. (Loud applause.)

The inscription bore the following—"Presented along with a motor car to John Brown, F.R.C.V.S., and silver tea service, entree dishes, and set of cruets to Mrs. Brown, in recognition and appreciation of the services rendered to the agricultural community of Ross and Sutherland."

Mr. Brown, who was received with applause, said:—Mr. Chairman and gentlemen, I feel I have no words to adequately express my feelings of gratitude for the very kind words you have said about me, and for the very handsome and useful gift you have presented to me. Ever since I came to reside in Ross-shire I have experienced the greatest kindness, and to-day this magnificent motor car is the outward and visible sign that I still retain your esteem, and that my humble efforts as a veterinary practitioner are appreciated. I feel that the agriculturists of Ross and Sutherland have put me under a debt of gratitude which can never be adequately repaid, but for the rest of my life it will always be my endeavour to uphold the honour of the veterinary profession, and if in my power to do more thorough service to you who honour me with your patronage. Reference has been made as to my qualifications, but, gentlemen, that was necessary in a district where farming is a science. The agriculturists of Ross and Sutherland have a knowledge of stock in health and disease that is not surpassed by any community in Britain. I must say that any success I may have had has been due to the wise and intelligent view which my clients invariably take of the ailments of the animals I am called upon to treat. I cannot very well thank you, gentlemen, without also thanking your good ladies for the many kindnesses and hospitality they have shown to me in the daily routine of my practice, the old proverb is true in my experience "that nowhere beats the heart so kindly as in the Highlands." Gentlemen, there is another thing that has made my work easier and that is the assistance rendered by the attendants of your stock. I must give the grieves, cattlemen, and ploughmen the greatest credit for their attention to a sick animal, and to carrying out instructions given. I have never found it otherwise than that these men have done everything in their power to assist in cases of illness, and do all they can to procure a recovery. You will, I know, accept this extremely imperfect acknowledgment of your kindness in the spirit in which it is tendered, being assured that I am unable to do justice to

such an event in vocal utterance. But, Mr. Chairman and gentlemen, you have laid upon me to-day another duty which I dare not evade. You have asked my wife to participate in your generosity in presenting her with this fine collection of silver. This, I can assure you, adds immeasurably to the pleasure which I feel on this occasion. Although she is not an expert in veterinary science, it is her lot to facilitate my work in many ways. To her I am indebted for all the comforts which take the rough edges off untimely hours, inclement weather, and irregular meals, and I am deeply grateful that you should honour her as well as myself. I can assure you that no one rejoices as much as Mrs. Brown at the distinction conferred on me to-day, and she desires me to express her heartfelt gratitude for the splendid presents you have asked me to accept on her behalf. (Loud applause.)

Mr. J. A. Forsyth, Balinaraid, said there had been a number of collectors working over a wide district, and those who had been called upon to give their mite could testify to the tactful manner in which they had been approached. (Applause.)

Mr. C. Mundell returned thanks on behalf of the collectors. Personally speaking, he had never had a more pleasant or more easy task. From the smallest crofter to the largest farmer he had no difficulty in getting contributions. He had only to ask to receive. (Applause.)

Mr. D. R. Cran, Ardmore, said this presentation had been an entire success, and that had been due in a large measure to Mr. Paterson, their chairman. He called for a hearty vote of thanks to Mr. Paterson. (Applause.)

Mr. Paterson returned thanks, and said that he particularly regretted the absence of Major Cuthbert, who had done so much towards the success of the movement. —*Ross-shire Journal*.

OBITUARY

ROBERT WILSON, M.R.C.V.S., China Street, Lancaster. Graduated, Lond: March, 1887.

Mr. Wilson died on April 21st, at Birmingham, from lobar pneumonia. Aged 50 years.

BURNDRED.—On April 23rd, at 148 Revidge Road, Blackburn, May Louisa, the dearly-loved wife of Ernest J. Burndred, M.R.C.V.S.

The late Mr. Henry Howse, M.R.C.V.S., of Lincoln.

Mr. Howse had reached the ripe old age of 80. Fifty years of that time he had spent in practice in Lincoln. He had an extensive high-class practice, his clients included some of the best known owners of horses in the country. He was a man of strong personality and could be trusted by his professional brethren; his skill and judgment were well known and were always in demand, not only among the rich, but among the poor, to whom no one acted with more generosity and kindness than Mr. Howse. Many and many a time he has attended horses belonging to small traders and others, knowing full well that he could never hope for anything like the usual payments, but he never refused to attend an animal in distress. Coming from London early in life, Mr. Howse spent some little time with his father at Norton Hall, and then came to Lincoln 50 years ago. His work for Lincoln Corporation was well known. He held the post of Veterinary Inspector for many years, and recently he was appointed consulting inspector to the same body. He was also Inspector for the Divisions of Lindsey and Kesteven some considerable time, and his work took him far afield. He leaves a large circle of friends to mourn his loss.

A memorial service was held at St. Peter-at-Arches Church, Lincoln, which the deceased attended for many years.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1348.

MAY 9, 1914.

VOL. XXVI.

VETERINARY INSPECTION AND THE POLICE.

Mr. Brittlebank's paper on veterinary inspection, printed this week, is full of interesting points. Some of these—such as the old question of whole-time *versus* part-time inspectors—will cause some divergencies of opinion. Personally we think that the whole-time inspector has now become a necessity, and that Mr. Brittlebank's ideal scheme of "the establishment for every area of a fully equipped veterinary department which would deal with every animal disease which arises within its area, and responsible to the Board of Agriculture" will probably be realised ultimately. Upon another point mentioned by Mr. Brittlebank—the objections to the present predominance of the police in dealing with animal diseases—there will be no difference of opinion within the profession; and though it may be difficult to effect a reform in this direction, we do not think that an organised attempt would be altogether hopeless. Mr. Brittlebank spoke briefly, but very emphatically, of the harm wrought by police influence and police methods in dealing with animal disease. We doubt whether a single veterinary inspector of experience could be found to disagree with him.

In dealing with scheduled animal disease, there are two occasions on which police assistance becomes indispensable. One, of course, is when an owner is bent upon defying the law. The other is when some rapidly spreading epidemic, such as foot-and-mouth disease, necessitates stringent restrictions and extensive enquiries over large areas of ground, which could not be managed with sufficient speed without aid from the police. But both these cases are exceptional, and veterinary inspectors may be trusted to recognise the necessity for police aid when it arises. In ordinary circumstances—such as work under the Tuberculosis Order—the less the police have to do with the control of animal disease the better. Their presence and supervision do a great deal to prejudice owners against preventive legislation; their methods often do still more, while experience has shown that it is quite possible to administer such legislation effectively without them.

Of all scheduled diseases still remaining with us, we have made most headway against glanders. It is the one scheduled disease which we can confidently look forward to very soon exterminating. But in London—its home, our successful campaign against it has been, and is being carried on practically without aid from the police. If that can be done with glanders, it can be done also with tuberculosis and other diseases.

RADIAL PARALYSIS—A SEQUEL TO CASTING.

Subject, a seven-year-old cart mare, used by railway company for town work.

It was found necessary to cast her in order to remove a diseased molar tooth; this was difficult to extract, being the 6th, and having lifted it from socket the tooth shears divided it and removal was effected in two pieces.

On being allowed up, the near fore leg appeared useless, the elbow dropped, the leg was held forward in a bent position.

I have had cases of temporary paralysis which have disappeared after a little exercise, and I did not anticipate anything serious. The mare was taken back to stall with difficulty, and as no improvement took place in two days time, and the mare would not lie down, I put slings under her. She showed considerable pain as evidenced by sweating and inability to straighten the limb. At two weeks time the region around the elbow swelled considerably, and the triceps muscle was very tense.

Case looked somewhat alarming, and a second opinion was obtained. Fracture of humerus was suspected. When three weeks had passed, I had a message to say mare was standing on affected limb, and next day I took her out of slings and sent her out for walking exercise, which she did very well with exception of dragging toe a little. In three days time she was working quite sound.

Remarks. This case was no doubt due to animal resting on turf and being down rather a long time with head bent round, causing undue shoulder pressure on nerve plexus.

I have thought since, how the local bonesetter would have scored if he had been called in about third week.

A. J. CATTELL, M.R.C.V.S.

Brecon.

THE DESTRUCTION OF TUBERCULOUS VIRUS IN BYRES.

D. Ottoloughi and A. Londini have published (*La Clin. Vét.*) an article upon this subject. They have carried out experiments, planned so as to agree with natural conditions, and on the basis of their results they recommend a mixture of 1 per cent. corrosive sublimate with either 2.5 per cent. tartaric acid or 3.5 per cent. citric acid for the disinfection of byres which are contaminated with tuberculosis. Four to five litres (= about 7 to 8½ pints) of this fluid suffice to disinfect a square metre (= rather more than a square yard) of the surface

of the byre. Before using the disinfectant, the straw and dung are removed from the byre, and the ground of the byre is cleansed with water and a broom.

The acid in the disinfectant attacks the surrounding ammonia and salts of ammonia, the presence of which would otherwise weaken the disinfecting power of the sublimate. The sublimate attacks the surrounding sulphuretted hydrogen and its salts, and in doing so is naturally reduced. On that account the loss of sublimate must be provided for by using a highly concentrated solution. According to the authors' observations, if a 1 per cent. solution of sublimate is used, from 0.3 per cent. to 0.5 per cent. always remains in the solution without being lost in forming chemical combinations. This strength suffices to completely destroy tubercle bacilli, even in sputum and dried dung.

Compared with ordinary methods of disinfection, this one seems rather costly. But it is very speedy and certain, for within three hours tubercle bacilli mixed in moist or dry dung are rendered harmless, even when the ground to be disinfected consists of very porous material, such as bricks.

After the disinfection the whole of the byre should be thoroughly scrubbed and washed out with water, so as to remove all danger of mercurial poisoning to animals afterwards placed in it.—*Berliner Tier. Woch.*

A CASE OF SYMPTOMATIC URTICARIA IN A COW.

Neuenschwauder records (*Schweizer Archiv.*) the following observation, in which he was able to establish the etiology of a case of symptomatic urticaria.

He was called to a cow in which the presence of a foreign body in the œsophagus was suspected. The animal was protruding the tongue from the mouth, and was in a condition of intense dyspnea. The author immediately thought of anthrax, but as the temperature was 102° F., and the pulse 66, he abandoned this diagnosis. On examining the mouth he found a considerable œdematous engorgement of the frænum of the tongue, and of the buccal and pharyngeal mucous membranes. As these symptoms have been seldom reported in cases of urticaria, the author ascribed the condition to a sting from a bee or wasp, and advised that lukewarm milk only should be given, and that with great care.

At this moment the author learned that the cow had not been milked. He had already observed cases of urticaria in animals after the discontinuance of milking—generally after the second day—and therefore he examined further in this direction. He found that the udder was hard, the anus was engorged, and a number of œdematous places existed upon the shoulders. He therefore diagnosed urticaria. He had the cow milked out, and allowed her her liberty. The next day she had recovered.

The author thinks that the cause of the condition was the sudden discontinuance of milking. He considers that toxins, thus formed in the udder, were reabsorbed and exercised a deleterious action upon the organism.—*Annales de Méd. Vét.*

PERFORATION OF THE INTESTINE BY A FRAGMENT OF BONE IN THE DOG.

Rubay and Van Goidsenhoven record a case of this nature, and generally discuss the whole subject.

The bones which enter into the dog's diet are generally not large and are often spongy in texture, and are therefore broken up and reduced into very small fragments by the animal. According to their consistence and state of division, the duration of their stay in the stomach varies from a few hours to several days, or even longer. Reamur, after administering small bones (swallowed whole) to a dog, found that they were not dissolved after a stay of twenty-six hours in the stomach. They were, however, slightly decreased in volume and had become moderately flexible.

Attacked by a gastric juice which is normally rich in pepsin and hydrochloric acid, the particles of bone are completely disintegrated. The ossein is peptonised and the calcium phosphate is rendered soluble. The latter is precipitated in the alkaline contents of the intestine, and gives the excrements their well-known chalky aspect. In ordinary conditions these excrements are expelled from 24 to 48 hours after the ingestion of the bones.

In some cases, however, splinters of bone which are comparatively large and composed of very compact tissue, may find their way into the food and be swallowed whole. These are not easily acted upon by a normal gastric juice, and therefore their stay in the stomach may be a long one.

Spallanzani observed a case in which a dog retained bones in his stomach for seven days, after which period they had only sustained a distinct softening, and had diminished in weight.

These bones may occlude the pylorus, causing an obstruction. They may also pass the pylorus into the intestine, and, if small and regular in shape, be discharged with the feces. In other cases they may be arrested, in one part of the intestine, and act as foreign bodies. If a splinter, so arrested, is irregular in shape and presents sharp angles, it may perforate the intestinal wall and cause infectious peritonitis and rapid death.

The authors' case was one of a valuable pointer, three years old, which had died after a short and sudden illness, and was brought to them for post-mortem examination. On opening the abdomen, lesions of generalised infectious peritonitis were seen, with a sanious effusion of chocolate colour and repellent odour. This effusion filled the whole peritoneal cavity, and measured about two litres (= 3½ pints). The small intestine, about four-fifths of an inch from the termination of the ileum, showed a buttonhole-like orifice in which a fragment of bone was fixed. This orifice was about 1.15 inches long, had very clear cut edges, showed no trace of swelling or of hæmorrhagic infiltration, and simulated a lesion which had been caused after death. The piece of bone appeared to be a portion of an articular head, probably that of the humerus. In shape it was irregularly triangular, with sharp edges. It was about 1.1/6 inches high, and its base, which had not been able to pass the orifice,

measured 1-2/5 inches. Opposite to the first opening was another very small one, produced by an angle of the base of the osseous fragment. The digestive tube was completely empty, and the gastro-intestinal mucous membrane showed a diffuse inflammation.

The authors made an enquiry into the history and the preceding diet. The diet could be traced, and it appeared certain that the bone had formed part of a meal which had been given one evening. The next day defecation had been regular, but the dog had refused his ensuing meal. The day after that the back was arched, the animal would not even drink, and towards evening convulsions set in. These lasted some hours, and ended in coma and death.

From this observation the authors deduce a long series of conclusions, mostly repetitions of the views expressed in the early part of the article. They emphasise the fact that bones are not always so inoffensive an element in the dog's diet as some suppose. They explain the passage of so large a piece of bone through the pylorus by the fact that the animal's diet had largely consisted of bread. This undergoes little change in the stomach, and, if present there in quantity, forms a pulpy mass which may pass through the pylorus in large "waves," carrying with it a piece of bone. The end of the ileum, on account of the marked reduction in size which the intestine undergoes there, is the place at which bones and similar bodies are most frequently arrested, but arrestment and perforation may take place at any portion of the intestine. Finally, the illness following perforation may, as in the case above, run an extremely rapid course.—(*Annales de Méd. Vét.*)

NATIONAL VETERINARY MEDICAL ASSOCIATION.

A Council meeting was held at 10 Red Lion Square, on Thursday, March 12th, at 4 p.m. The Past-President (W. Woods, Esq.), in the chair. Present: Sir Stewart Stockman, Profs. Macqueen and Wooldridge, Messrs. Carter, Toope, Gooch, Samson, Hancock, and Harrison, Asist. Sec. Several letters regretting inability to attend were received.

The PAST-PRESIDENT rose and explained the reason he occupied the chair, and proposed that a vote of condolence be passed and recorded in the minutes expressing deep regret at the sad death of W. Hunting, Esq. and the great loss the Association and profession had sustained. The vote was passed, all present standing in silence.

The ASSISTANT SECRETARY read the notice of the meeting.

The minutes of the last Council meeting were read and confirmed.

SIR STEWART STOCKMAN (President of the Southern Branch) proposed that the date, time, and place of the annual general meeting be left to President, Treasurer, Assistant Secretary, and himself to arrange, suggesting a convenient date as some time during the International Congress, and place of meeting the Central Buildings, Westminster, S.W. This was carried.

The general feeling being that there was no occasion to provide any social function during the meeting. If any be held, to be self-supported.

It was proposed by Sir Stewart Stockman, seconded by Prof. Wooldridge, that it be a suggestion to the annual general meeting to hold the meeting in 1915 in Edinburgh.

Under the rules of the Association the Past-President and Assistant-Secretary agreed to continue in their respective offices until the next general meeting.

A letter was read from the Secretary of the Royal Sanitary Institute inviting the Association to appoint delegates to the Congress to be held in Blackpool from July 6th to 11th, and it was reported that Mr. W. Augustus Taylor, President of the Northern Branch, be invited to act as delegate from the N.V.M.A.

The Secretary was instructed to write Mr. Shipley, and say that his letter with reference to the appointment of a secretary with an honorarium was considered, and it was decided to defer taking any action to a future date, owing to the financial state of the Association.

The TREASURER made a short financial statement. There was a balance of about £60 at the beginning of last year, the amount in hand at present being between £20 and £30.

The Secretary was instructed to write Mr. Trevor Spencer in reply to his letter to the Treasurer, and say that it was placed before the meeting, and the Council accepted the affiliation of the National Association of Veterinary Inspectors to the Southern Branch on receipt of the necessary affiliation fee.

Mr. TOOPE read his progress report of Committee on insurance fees and scale of amended fees as finally adopted by the special committee. He drew attention to the difficulty experienced in getting replies from the various insurance companies.

After a full discussion in which the majority present took part, the action of the Sub-committee was supported by the Council, and Prof. Macqueen proposed, and Mr. Samson seconded, "that the scale of amended fees of the insurance societies, after the question of mileage has been settled by the Sub-committee, be submitted to the various societies for approval or otherwise."

On the suggestion of Mr. Toope it was agreed that the report be printed and attached to the minute book.

LANCASHIRE VETERINARY MEDICAL ASSOCIATION.

[NATIONAL V.M.A.—NORTHERN BRANCH].

The quarterly meeting was held on Thursday, April 2nd, at the Grand Hotel, Manchester, the President G. H. Locke, Esq., in the chair. The attendance included Messrs. Woods, Ellis, Wolstenholme, Michaelis, Munro, Junr., Mattinson, E. J. Burndred, Walker, Holroyd, Whitehead, Stent, Heyes, Edwards, Richardson, Priestner, Holburn, and Brittlebank. Visitor: Mr. R. Finch.

Apologies for absence were received from Messrs. Abson, Lawson, Packman, Sumner, Darwell, Carter, Hughes, Wharam, and Garnett.

Minutes. Mr. Woods proposed and Mr. Wolstenholme seconded that the minutes of the last quarterly meeting be taken as read.

Correspondence. A letter dated March 28th from Mr. Wharam was read, suggesting that it would be a convenience to Yorkshire members if the meetings of the Association were held on Wednesday instead of Thursday. Further, that the word "Medical" should be deleted from the title of the Association.

Mr. WALKER proposed, and Mr. Mattinson seconded,

that Mr. Wharam's first suggestion should be referred to the Council for consideration and report.

With regard to the second suggestion, it was resolved to postpone consideration and to place the matter on the agenda for the next meeting. Proposed by Mr. Woods, seconded by Mr. Heyes.

Mr. GARNETT wrote on the question of the International Congress, hoping that the subscription list would be increased.

The PRESIDENT said it was very desirable that those who had not subscribed should endeavour to do so.

A letter was read from the Conjoint Veterinary Associations (Ireland), dated March 20th, calling the attention of members of the Lancashire V.M.A. to the fact that the veterinary practitioners of Ireland are desirous of having a direct representative on the Council of the R.C.V.S., and with that object in view have nominated Mr. P. J. Howard, M.R.C.V.S., of Ennis, for election. They invite support for Mr. Howard.

Mr. BRITTLEBANK pointed out that the Association was not actually asked to combine, and he thought the only course to pursue was to bring the letter to the notice of members. It was resolved that the Secretary be instructed to acknowledge the receipt of the letter and to intimate that the matter had been placed before the Association.

New Members. Mr. R. ISHERWOOD, Warrington, and Mr. C. W. ELAM, Liverpool, were unanimously elected members of the Association, being proposed by Mr. Noël Pillers, and seconded by Mr. Brittlebank.

Report of Council: Financial Position. Mr. BRITTLEBANK reminded the meeting that at the last quarterly meeting the question of the finances was discussed and referred to the Council for consideration. This had been done, and the Council recommend that each member attending the meetings of the Association and taking dinner be asked to contribute one shilling towards the cost.

Mr. WOLSTENHOLME proposed, and Mr. Mattinson seconded, that the recommendation of the Council be accepted.

Mr. BRITTLEBANK explained that the Council did not want to give up this social gathering. The Association is growing, and if it could be extended still further they would be more powerful. They did not want to put members to undue expense other than was actually necessary to carry on the work. The proposal was carried.

Professional Politics. The Council had discussed this matter and recommended that a small Sub-committee, not necessarily confined to members of the Council, should be appointed to watch the progress of events, and it was felt that the various Associations should exercise at the proper time more actual interest than they do.

Mr. BRITTLEBANK said the purpose of such a Committee was not very clear at present, but he felt that it was difficult for one man to watch entirely all the points that should be of interest from a political point of view to an Association such as theirs. His idea was to form a small Sub-committee entitled the Political Committee, the members of which would keep watch on matters arising in their own areas and from time to time such matters could be brought before the Association. It would be far better to thrash out these questions and take some joint line of action instead of acting independently according to one's own judgment, which may be formed without the possession of sufficient information. The constitution of the Committee is in the hands of the members, it should not be too centralised but fairly representative of the whole district. The question of professional education is becoming prominent, and it might be necessary for the committee to take this matter into consideration.

Mr. WOLSTENHOLME was of opinion that the whole Society should form the Committee. They met largely to talk about things connected with the politics of the profession. The matter touched each member and each should look out for events of vital interest to the profession. To pass this over to a sub-committee appeared to be delegating functions they ought to perform individually.

Mr. MATTINSON was in favour of every member taking a share in this matter, and thought they should be invited to bring cases of political interest before the Association just as they are now invited to bring other cases.

Mr. HEYES felt that each member ought to take an interest in veterinary politics, but how many set out specially to take such interest as to bring about or serve any useful purpose? He agreed with the idea of a sub-committee, and if the sub-committee could operate with committees of similar societies they would in course of time have a considerable influence. If they trusted to every member doing something they would not achieve anything more than had been done in the past. The Association only meets once a quarter, and there is barely time at present to discuss the various matters brought forward.

Mr. WOLSTENHOLME asked if the new National Association was not specially designed to meet positions of this kind.

Mr. BRITTLEBANK was entirely in accord with Mr. Wolstenholme that all members should feel sufficient interest in the profession to constitute themselves a political committee, but unfortunately experience of what is done is rather contrary to what people ought to do. Every man's job is no man's job, and unless you put special responsibilities on certain individuals you will seldom find anyone who will come forward and take initiative in ventilating matters of local interest. The right of a member who is not on the special committee to bring forward his political views at any time he wished would still be existent.

How far the functions of such a Committee can extend in the future he did not know, but his view was that they will become important. At present they will feel their way to see in which direction they could exercise their work. It was largely with a view to relieving the officers of the Association that he moved the proposition that such a Committee be formed, and that the matter be placed on the agenda for the next meeting.

Mr. MATTINSON seconded, and it was adopted.

Sanitary Institute Congress at Blackpool. The Council recommended the President be asked to represent the Association as delegate. Mr. Wolstenholme proposed, and Mr. Edwards seconded, that the recommendation be accepted. Carried.

TUBERCULOSIS ORDER, 1913.

By A. B. MATTINSON, F.R.C.V.S., D.V.S.M.

The following resolutions at a joint meeting of farmers and milk producers of the County of Cheshire are my excuse for troubling you with a few of my views on the Tuberculosis Order of 1913. This must not be considered to be an exhaustive paper on the subject, but merely in order to provide material for discussion.

I believe the members of our profession know much more on the subject than any other body, and I see no reason why we should not collectively voice our views for the guidance of the Board of Agriculture in any amendment of the Order which is contemplated, or about to be made.

"A joint meeting of the Councils of the Cheshire Milk Producers' Association and Cheshire Chamber of

Agriculture was held at Crewe on Feb. 16th, 1914, to consider what amendments are necessary to the Order. The following memorandum was agreed to:—

The Order has been in force about nine months, and is now admitted to be in some respects a failure. The causes of failure are:—

- (1) The complicated nature of its provisions.
- (2) The inadequate amount of compensation paid to stockowners.

The result of this is:—(a) Failure on the part of stockowners, and sometimes also on the part of officers of local authorities, to understand the provisions of the Order. (b) Widespread dissatisfaction with the amount of compensation paid.

The Order is consequently not fulfilling the purpose which, not only its promoters, but owners of stock had in view, viz., the elimination from the milk supply of those cows which are believed to be a danger and menace to the Public Health, and to pay to the owners of such cattle a fair and equitable value for them.

PROPOSED AMENDMENTS.

(1) **Valuation.** *One valuation only.* Before the slaughter of an animal the local authority shall either agree in writing with the owner of the animal the value thereof in the open market at the time of valuation, or if they shall fail so to agree the value shall be ascertained by a public valuer to be appointed by agreement between the local authority and the owner.

In the event of the local authority and the owner failing to agree as to the value of the animal, or if the owner refuses to accept the valuation of the public valuer appointed as aforesaid, the Board shall appoint a valuer whose decision shall be final.

(2) **Compensation.** *For Carcases.* (a) If the post-mortem examination proves the animal to be free from tuberculosis, the owner shall be paid by the local authority a sum equal to the full value of the animal as agreed upon, and a further sum of 20/-.

(b) If the post-mortem examination proves the animal to be affected with tuberculosis the owner to be paid three-fourths of the value of the animal as aforesaid.

For Milk. (c) Where a cow which has been examined under the provisions of the Order (Section 9) is subsequently found to be free from tuberculosis, and during the period the milk of such cow has been prohibited by the local authority from being sold or used for human food, the Local authority shall pay the owner for such milk for the period during which the examination and consequent prohibition has occurred.

(3) **Administration.** In view of the heavy cost of administering the Order, and the fact that this cost is incurred in the interest of Public Health, it seems right that at least one-half the cost of administration should be repaid to local authorities from the Imperial Exchequer.

JAMES SADLER, Secretary.

Crewe Gates, Crewe. Feb. 18, 1914."

With the bulk of these suggestions I entirely agree, except as regards (2) Compensation.

(a) I believe when the single valuation is adopted, that if the animal is free from tuberculosis the owner should receive £2 above the agreed value. This would rarely have to be paid, and when it had it is only right that the owner should be fully indemnified.

(b) With this suggestion I cannot agree for the following reasons:—Section 6 (2) of the Order says, "In ascertaining the value of an animal regard shall be had to any Act, Order, or Regulation dealing with the sale or use of milk, milk products, or carcases for human food."

This, to certain clients, entails much explanation and instruction as regards the Public Health and other Acts,

but it may be very concisely expressed as meaning—in the case of an affected animal—that if udder lesions are present the cow is valueless for dairy purposes and hence only for slaughter, and if emaciated she is also valueless except for slaughter and proper inspection of the carcase.

This again may be expressed by saying that all animals reported under the Order, and which the veterinary inspector is satisfied are affected, possess only one value, and that, *the carcase value after inspection and rejection of diseased parts*, and such being the case I suggest that as the proper basis of value.

The owner should in all cases receive the full salvage value, plus compensation; that the Treasury intended that more than bare salvage be paid is proved by the grant of £60,000 annually for compensation purposes, and an equal sum from local authorities.

I would suggest that the valuation should be full salvage value, plus compensation on a sliding scale, and tentatively put forward the following:

For carcases realising under £5, 12½% or 2s. 6d. per £ realised; minimum 30s.

For carcases realising from £5 to £10, 15% or 3s. per £ realised.

For carcases realising over £10, 20%, or 4s. per £ realised.

This would stimulate earlier reporting while the animals had a fair salvage value, and would thus remove animals before they got to the most infective stage of the disease, and good carcases with udder affection would be well paid for.

I cannot agree with the three-fourths or other fractional system of payment. If a cow is worth £12 and realises it, why should the owner only get £9. If, on the other hand, the cow is worth £9, why has the veterinary inspector to represent her as being worth £12, so that the owner may receive the bare value for her.

I may say here that I think it highly desirable that the owner should receive a copy of the valuation agreement at the time it is made; this is only an ordinary business proposition, and fair to both contracting parties.

To raise the highest possible salvage, local authorities should make proper arrangements for the slaughter of animals in places where the system of meat inspection is not too stringent. I am no advocate of "slink" traffic, but I do not think we should move too much in advance of public opinion, and, where the sale of such carcases is permitted after proper inspection, is the proper place to send affected animals.

It is essentially a very important part of the veterinary inspector's duty to see that the maximum salvage is realised, so that the Treasury grant and the local rates are not excessively drawn upon, and also to ensure that the farmer receives full value.

I should like to suggest here that the Board of Agriculture should definitely instruct the local authorities to pay over, in all cases, the full amount of salvage received, for at present that is not always the case. If a farmer receives less than the local authority get for a carcase he has a legitimate grievance, and such cases do lasting injury to the successful working of the Order.

Where carcases are dressed in the administrative county the veterinary inspector making the post-mortems should also be appointed as meat inspector to the County Council. At present the veterinary inspectors have no legal status as meat inspectors, and have no authority whatever to authorise or prevent the sale of a carcase for human food.

I should greatly prefer to use the term "marketable" for carcases in preference to "tuberculosis not being advanced, etc." as at present employed, on account of the great variation in methods and standards of meat inspection.

The term emaciation is synonymous with leanness or the state of being thin, and this is a very variable quality; an animal may be thin, *i.e.* emaciated, and yet quite valuable for slaughter if the lesions of disease are limited or absent.

Under the Order, however, Sec. 8, para. 4 (*d*) where there is emaciation and any lesions are present, it is *ipso facto*, advanced tuberculosis, although the carcass might be quite marketable and worth up to £8 or £10. The cutting down of such carcasses only tends to perpetuate the trafficking in "screw" cattle to country places where there is no supervision of the sink meat trade.

At first when the Order was put into operation I found that the police had arranged with local butchers in various districts to kill affected animals on the farms, for which they paid 15s. per head.

I had great misgivings that certain advanced cases were not being converted into "hen-meat" in spite of the earnest assurances of the butchers, and as I think slaughter at farms is always objectionable, I invariably have the animal removed.

Very emaciated cases I send to the knacker's at once, and others having a potential good value are sent to the public abattoir, where, if they prove to be unfit for food, the carcass is cremated and no question of "slinking" can occur. It is only placing temptation in the way of a butcher to allow animals to be slaughtered on farms, and to leave the removal of the carcass to the butcher for "hen-meat."

It would be well that the veterinary inspectors should be appointed by arrangement with the local authorities to carry out the provisions of the Dairies and Cowsheds Order, and thus help to forward the improvement in the sanitary conditions of buildings in which cattle are kept, as that is necessarily complementary to the Order if the maximum benefit is to be obtained.

May I briefly summarise what I believe are the most important points requiring amendment of the Order, or the instructions to local authorities, viz. :—

1. Simplification of valuation report; owner to be supplied with a copy of report.
2. Proper arrangements to realise the highest possible salvage after proper inspection of the carcasses.
3. Knacker, and not a butcher, to remove and slaughter very advanced cases.
4. Local authority not to make a profit on the salvage.
5. Occasional inspection of county sales, fairs, and farm-stock sales.
6. Efficient inspection of markets, cattle, and cowsheds.
7. Liberal compensation for the first few years to stimulate reporting and increase general information on the subject.

DISCUSSION.

Mr. ELLIS drew attention to the use of the word inspector, and thought the term veterinary inspector should always be used.

Mr. WHITEHEAD thought the Order was not carried out in different places as it ought to be. Where salvage has been more than the compensation it has been his plan to refer the people to the Section of the Diseases of Animals Act and tell them to fight the matter out. He thought the farmer was entitled to compensation after keeping back milk for three weeks. This point was dealt with in the Milk Bill which is in abeyance.

He agreed that all animals suffering from tuberculosis with emaciation should go to the knacker's yard. Those suffering from tuberculosis of the udder should be killed by a butcher, and the question of the disease being advanced or not advanced can then be dealt with.

The matter of some animals being worth more in certain towns than others raises the question of getting

a standard in meat inspection. The removal of suspected animals from markets should be stopped.

Mr. BURNEDD did not quite understand Mr. Mattinson when he said that in the case of an animal found to be free from tuberculosis, in addition to the compensation he would pay two pounds instead of one pound. He agreed with the valuation of an animal condemned with tuberculosis of the udder under the Dairies, Cowsheds and Milkshops Order, it should be valued as a beef animal; in this case he could not see why a bonus should be paid to the farmer over the amount. The same point could be met by saying his cow was worth dairy price. To his mind any cow affected with tuberculosis with emaciation is unfit for food, and any veterinary inspector who agrees to any salvage value is conniving with people who deal in such cattle.

Mr. HOLBURN said animal suffering from tuberculosis with emaciation, whether advanced or not, was certainly not fit for food. The one unfortunate thing in the Order to his mind is valuation. First they had to value an animal assuming it is not tuberculous, and if wrong, compensation has to be paid; then they had to value an animal as diseased. How could this be done? What valuation could be put on a tuberculous animal? In the other Acts an animal was valued at the price it was worth before becoming ill.

There is a want of uniformity of action between various county councils. Personally he was glad the Order had been introduced, but it required amendment. He desired to know how far an inspector was entitled to go when called to examine a cow. Should he inspect the rest of the herd? Form T4 has to be filled in and asks "Do you suspect other animals?" If you have not examined them how can you answer? The Cheshire County Council object to an inspection of other cattle, probably on the question of cost.

Mr. RICHARDSON instanced a case where he could not find any trace of tuberculosis in the milk, the cow was thin but not emaciated: she reacted, and his trouble was to value the animal knowing she was tuberculous, the lungs being undoubtedly affected. He valued her at £8, and got the owner to sign a form. On post-mortem she was extensively diseased. When the quarter's accounts were sent in he got a strong letter from the Board asking why he had classed the animal as emaciated; how was it that an emaciated case of tuberculosis which on post-mortem proved to be advanced could be worth £10? (The man only got £2 when he had finished). He had replied to the effect that according to the Order he had to value the animal whilst alive, and it was impossible to see inside until after death.

He also reported a case of advanced tuberculosis where the carcass being removed by a knacker was stated to be destined for the Halifax Zoo, but was found by a police sergeant being conveyed in an entirely different direction.

Mr. Woods agreed there was a certain amount of amendment of the Order necessary. It did not occur to him why a cow should be valued at more than full valuation plus £1, provided she turns out all right. Before suggesting any amendment they must be sure that county councils are carrying out the Act, because the farmer is entitled to the full value received by Act of Parliament. If that is not known it is not the fault of the Act. If the Lancashire County Council are making money out of the Order they have no right to do so, and the farmer can sue them and would get his money.

One point of the paper was of considerable value, and it all came to the question of compensation. It is not compensation to give a man less than he could make without the Act. Compensation must be dealt with in such a way that the farmer must receive more than he is receiving now. If the Act is to be effective they must

have the good-will of the farmer. He understood the Cheshire farmers had objected to two valuations, and it is perhaps somewhat difficult, but he believed a cow has two values.

He had a case now of a cow calved two months ago, giving 12-14 quarts of milk. He had found acid-fast bacilli, and the milk is being tested at the University. That cow has two values. If she has not tuberculosis of the udder she is worth about £20 as a milker, but if giving tuberculous milk she has no right to be used as a milker and is only fit for slaughter, and should be valued for beef; the latter value he fixed at £12. Any cases he had condemned for emaciation, if able to walk, had been sent to the knacker's yard, but they have been killed by a butcher so that if fit they could be passed for food.

Mr. BRITTLEBANK said he had listened carefully to the various speakers, and if confirmation was necessary it had been provided to-night by the discussion as to the necessity for a committee to look after professional politics. It would be recollected by some that for some time he had affirmed that the profession confined itself too much to itself, and if they wished to secure the authority which is theirs, or should be theirs, they would secure this only with the aid of the people they worked with, such as large agricultural societies, the Central Chamber of Agriculture, etc.

The whole point, to his mind, in the Tuberculosis Order—and he came into contact with it a good deal—is lack of uniformity in administration. Each county has its separate instructions to its veterinary inspectors, and these are often contrary to the spirit of the Order. The amendment should be one which would make it compulsory upon every County Council to carry out the provisions of the Order in the same manner and not interpret clauses in their own way. So far, experience under the Order has been mere experience, and one has gained a good deal of knowledge from its working. He thought ample knowledge had been gained to enable the Board of Agriculture to formulate sufficient amendments to make the working of the Order coincide with every county throughout the kingdom.

Speaking with regard to compensation, he was somewhat cynical. He had been looking back for a good many years at the general history of the payment of compensation for slaughter of animals, and there was no doubt the results were not good, and unless compensation was paid which would show a profit to the individuals concerned, the matter would always be a source of grievance. If you can go to the farmer and say you can give him a profit out of the transaction then you become his friend, and the Order would be a household word.

He disagreed with Mr. Woods about two valuations on a dairy animal, but thought a dairy animal in milk should be valued as a dairy cow, and compensation paid on that scale. It would be unfair to take the second valuation in the condition of that cow. You could take many other excellent milch cows which would approach a state of being valueless except as dairy cows—poor in condition chiefly, and probably due to the fact of the greater amount of work performed during lactation period. They should not be penalised by being valued as beef animals, it should be as working dairy cows. Compensation should be paid for milk from animals held up for examination, but where the cow is proved to be tuberculous, or in such a condition as to be unfit for human consumption, there should be no payment. Every County Council should arrange for condemned animals to be slaughtered at some recognised slaughter-house, and in no case should they be slaughtered at the farm. If the place for slaughter is some distance away, and the animal is incapable of walking, then the cow should be removed at the expense of the County Council.

The views of the agricultural community with regard to the apportionment of the cost of administration are just, and in place of the local authority having to bear the whole expense, the Imperial Exchequer should share it equally.

With regard to assessment of carcase for valuation, that is on post-mortem, under present conditions he was afraid, from his experience of a good many cattle slaughtered under this Order, that some veterinary surgeons have not interpreted the conditions which are laid down in Section 8 of the Order. These four recommendations were made by the Royal Commission on Tuberculosis with regard to the inspection of meat. They have been adopted by the Local Government Board and by the Board of Agriculture for the purpose of this Order and have been, he thought, interpreted in too severe a manner. Take for instance Sub-section B in this recommendation, "when tuberculous lesions are present on the pleura and peritoneum," but it does not follow that because the pleura is affected and not the peritoneum that the carcase should be condemned.

He remembered a case in which a big cow was affected with localised tuberculosis in both cavities, tuberculosis of the bronchial and mediastinal glands, also of the mesenteric glands, no tuberculosis of the serous membrane, and the inspector interpreted this as meaning tuberculosis of the advanced variety. The valuation was ridiculous—it was valued as worth £20. After he had agreed to assess her at three-quarter value the salvage to the farmer was only £3, and that was all he received for a time. Correspondence with the County Council ensued on the subject, and ultimately the farmer got the remaining £5 due to him as being the sum realised for the carcase. He felt sure from the words of the Minister for Agriculture that the method of valuation is going to be altered, and a system of single valuation adopted.

As time goes on, notification of suspected cases will disappear. What will develop will be responsible duties placed upon veterinary inspectors in various country districts in inspecting herds for local authorities who have received notification from Urban Councils saying that milk from a particular farm is tuberculous. That is the direction in which veterinary inspectors will have to expect the greatest amount of interest under the Order, and the clauses which govern that work should receive further consideration.

Mr. HEYES was of opinion that the Order has done good amongst the farmers. He had frequently been consulted as to whether an animal was tuberculous or not. He always examined the milk, and in that way had added to his knowledge as to the causal factor of many of the pathological conditions of the udders encountered. With respect to compensation, there must be a great difference of opinion unless some standard of what shall constitute advanced tuberculosis and otherwise is drawn up and acted upon.

Mr. MATTINSON replied to the discussion. He said the term "inspector" included veterinary inspector. With regard to all cases of tuberculosis with emaciation going to the knackers, he said this all centred on the question of emaciation. As to seeing the end of a carcase, they had nothing to do with it. If he thought they had a salvage value he sent them to the borough meat inspector, and if they were passed as fit for food well and good. In cases in the administrative county he (Mr. Mattinson) would take the responsibility himself. He was prepared to give liberal valuation, and did not believe in a fictitious value.

The various points mentioned in the discussion were dealt with.

Mr. BRITTLEBANK proposed a vote of thanks to Mr. Mattinson for his interesting paper. Mr. Richardson seconded, and the President supported.

The PRESIDENT stated that the Council recommended that the next quarterly meeting be held at Preston.

Mr. WOLSTENHOLME proposed this, Mr. Brittlebank seconded, and it was carried.

SEPTIC MENINGITIS, DUE TO INFECTION FROM PUS IN THE NASAL CAVITY OF A HORSE.

By J. B. WOLSTENHOLME, F.R.C.V.S.

On the 2nd February I admitted to hospital a grey cart gelding, about eight years old, with a temperature of 104°2', and some enlargement of the left submaxillary lymphatic gland: the case appeared as one of commencing strangles. The horse appeared to progress well for several days, the temperature on the 5th and 6th being 101°. On the morning of the 7th the temperature was 100°8', pulse normal. At 4 p.m. on this day the horse suddenly became dangerously ill, profuse sweating, both fore feet in the manger, the nose pointed upwards and pushed violently against the wall, the breast or neck, or nostrils, or shoulders, as it was most convenient for him to do. The respiration was very rapid and very laboured. At times he would attempt to climb the wall, it seemed that he could not stand without the support of the wall, he looked as though he would stagger and collapse and die immediately. At this time the pulse was 70, of medium strength, and the temperature 103°8'. The conjunctiva was not injected. At midnight he was a little easier, and stood without the support of the wall, but all four limbs were spread out, the horse had a curiously rigid appearance, and the nose was high up in the air. At this time he drank water.

He continued in this condition until he fell and died at 5 a.m. on the 8th. The nasal breath was very fetid on the 7th, but there was no discharge from the nostrils.

Post-mortem Examination. In the lungs there were a few small centres of commencing abscess formation, also some infarcts; the lungs were congested.

On opening the skull it was seen that the meninges were of a deep red colour from congested vessels. On removing the brain it was found that vessels were very engorged at the base, over the hemispheres, everywhere. There were small hæmorrhagic spots in places. After dividing the skull and face and removing the septum nasi it was seen that the antrum was of a dirty leaden colour, with here and there grey areas upon the thickened mucous membrane, each about the size of a lentil seed. The entire cavity was septic, with a very fetid odour, the inferior or posterior turbinate bone was filled with thick inspissated fetid pus, as also the inferior maxillary sinus.

On removing the plate of the superior maxillary bone, covering the fangs of the molar teeth, it was found that the purulent condition of the nasal cavity had had its origin from the fangs of the third and fourth molars, mainly that of the fourth, as the specimen will show. I had no knowledge of this condition when the horse entered hospital, but on enquiring was informed that the horse had had fetid breath for about two years.

The specimen shows a well developed seventh molar, between the tush and the first ordinary molar.

Mr. Wolstenholme was heartily thanked for his interesting communication and excellent specimen.

A vote of thanks to the President terminated the proceedings.

J. W. BRITTLEBANK, Hon. Sec.

The oldest English horse race is probably the contest originally styled the Kipling Annual Plate, which takes place according to precedent on the third Thursday of March, on the East Yorkshire wolds. Records prove that this quaint event, which is run along the turnpike road, has been run each year without a break for over two and a half centuries.

WESTERN COUNTIES
VETERINARY MEDICAL ASSOCIATION.

[NATIONAL V.M.A. SOUTHERN BRANCH.]

CONTAGIOUS ABORTION*

(by Capt. HEAD, M.R.C.V.S., Helston.) DISCUSSION

The PRESIDENT (Mr. C. E. Perry): I am sure we have all listened with great pleasure to Capt. Head's very interesting paper. It is a subject that I personally do not know much about. I hope therefore we shall have a good discussion.

Mr. WM. ASCOTT: I should like to cordially thank Capt. Head for the very lucid manner in which he has placed this subject before us, and without attempting to discuss the paper, should like to ask, not only Capt. Head, but also the others present, their opinions as to when it is proper to remove the after-birth; some say it should be done at once, some on the third day, whilst others say not at all, but content themselves with drenching and syringing. I cannot help thinking that laziness, or at any rate a distaste of a dirty job, influences a good many of those who hold the latter view. In my experience it is astonishing what can be done with a little patience, especially if the uterus be first well irrigated with very hot water. I have found many an os, which at first appeared quite closed, suddenly dilate and allow the hand to be passed without difficulty into the uterus. The hot water also seems to have a considerable effect in separating the cotyledons, and I am strongly of opinion that the after-birth, or as much of it as can be got without injuring the cotyledons, is much better removed on or about the third day.

Mr. STABLEFORTH: I have had some experience of the working of the Abortion Order in Devon, and think it is doing a lot of good, but not as much as it would do if made universal. The number of cases have considerably lessened, there not having been so many re-occurrences this year as there were last. The penalty in cases where farmers substitute calves is not heavy enough, and judging from reports I have heard at markets, I should think quite 50 per cent. of the cases are not reported. The new Devon Order requiring antiseptic irrigation for seven days is a step in the right direction, but in many cases this period is insufficient to properly cleanse the animal. I should like to ask Capt. Head when he considers abortion most likely to occur. In my experience it is between seven and eight months. I always advise my clients to retain their own calves for the sake of the immunity they certainly possess.

Mr. LANSLEY: I have very little to say because I agree almost entirely with Capt. Head. I think legislation will do as much good as inoculation. I am certain the Devon side of my practice is now much freer from the disease than the Dorset side, which supports the argument for universal legislation. I find in many cases the farmer prefers to run the risk of the cow not cleansing properly rather than call in the veterinary surgeon and have the case reported as one of abortion. I have seen cases where abortion occurred the second time (the calf being carried a longer period than the first time), and the third time the cow has been rendered immune.

Mr. WHITEMORE: The Order not being in operation in my district, I do not know much about its working. With regard to the removal of the after-birth, I sometimes find it difficult to do this, as frequently one cannot get one's hand into the uterus. Does Capt. Head think the cow is clean after two months, and not

* See our issue of April 4th, p. 646.

capable of carrying infection? In my opinion it would be almost impossible in many cases to abstain from introducing fresh stock and at the same time successfully carry on business. I should also like to know how to test an aborted calf, which lived, to ascertain if it had acquired immunity. I should like to add my quota of thanks to Capt. Head for his admirable paper.

Mr. WM. PENHALE: I beg to thank Capt. Head for his very interesting paper; there is a lot in it and he must have had great experience in the subject. I, too, have had many cases of this disease in my practice. I think the Order is doing good, at any rate there is a great falling off in the number of cases reported, and I think the majority of them in my district are reported. I hope the Order will be continued, but I have reason to believe it is likely to be dropped; it will be a great pity if it is, as it undoubtedly prevents what used to be the common fraud of substitution. If cases are not reported, there should be a heavier fine; I have certain knowledge that the practice of substituting another calf and sending it with the aborted cow to market for sale, is very common. I do not believe in employing harsh measures with regard to the removal of the placental membranes, as I think it impossible to do so without injury to the cotyledons; rather than strip for it, which is necessary, I prefer to wait a day or two and try what good feeding and tonics will do. I should like to ask Capt. Head how long before inoculation should be tried? This is a very opportune time to bring forward such a paper. I learn Mr. Runciman is anxious that the Order should be made universal, but does not wish to unduly press the matter; whatever we can do to assist this object will be a great national service, for I am convinced the Order would be a great blessing if it were in vogue all over England.

Mr. JOHN DUNSTAN: There are two methods of testing, one is a serum used somewhat like tuberculin, and the other is the agglutination test. In this you draw blood from the suspected animal and send to the laboratory, where on analysis it can be ascertained if abortion will occur or not. The important point about testing is that it enables one to go into a herd and pick out and isolate the affected animals, and so prevent further infection from them. Our experiments with the agglutination test have been strikingly successful, we have treated one herd of over 1000, and the owner is delighted with the results. I am not in a position to quote the actual figures, but these will be published by Sir Stewart Stockman in due course. Personally, I have great faith in this test. One prominent symptom of the disease is that a cow will continually return to the bull but not get in calf. In what way is this connected with the disease? I shall be interested to hear if other members have had a similar experience of this. With regard to the time when abortion most commonly occurs, from experience I find it is about seven months, there being more cases at that period than all the others put together. We have it on the authority of the Royal Commission that immunity is conferred by continual abortion. I believe in removing the "after birth" on the third day whenever possible, but in some cases this is impossible.

I think we ought to discuss the advisability of continuing the Order in Devon, because Devon is being carefully watched by other counties, and an expression of opinion from such a meeting as this must be of considerable value. I am strongly of opinion that it would be a distinct advantage if the Order were extended to the whole of the British Isles. I, too, should like to add my thanks to Capt. Head for his paper.

Mr. R. E. L. PENHALE: I am fortunate in following two gentlemen who have had so much experience of epizootic abortion, and have given us their views thereon. I thank Capt. Head for his paper, which is so

practical and interesting. I don't believe the Devon County Council Order is much good at all, because it does not go to the root of the matter; one cannot tell with any degree of accuracy the result of the Order because the majority of the infected animals—I should think quite 90 per cent.—are being fed off; it is very difficult to induce farmers to keep them around. I cannot agree with such restrictions in buying and selling as are proposed, it would mean ruin to many a farmer and cause great stagnation in trade. My experience coincides with that of Mr. Dunstan when he states that seven months is the most prevalent period at which abortion takes place. Does Captain Head suggest it is possible to kill the bacilli with such a strength of antiseptic, which will not injure the mucous membrane of the womb? I find it is sometimes quite easy to remove the cleansing, while at others it is impossible.

Mr. P. PENHALE: This has been a most interesting paper. Before coming to the meeting I looked over the notes I made on this disease when at College and noticed that Professor Wooldridge stated that usually an aborted calf had no hair. I do not agree with those who say the bull is not a carrier of infection. My father considered solution of corrosive sublimate to be the best antiseptic for irrigating the uterus, but personally I have found considerable benefit from the use of very hot water, as hot as can be borne. I have treated three herds with what is known as the carbolic treatment, with a fair amount of success.

Mr. DOWN: I beg to thank Capt. Head. I have listened with much interest to his paper, and also to the remarks of other speakers. The ground has been so well covered there is not much left for me to say. With regard to the removal of the cleansing, I do not believe in meddling too quickly with the cotyledons for fear of injury, but get it away if you can. I was recently called to a cow which had twins; the farmer said, "Don't remove the cleansing," so I washed her out and left her. The next day the cleansing was further out, but the owner still refused to have it taken off, so I washed her out again. The third day she was ill with every symptom of blood poisoning, so the owner then consented to have the cleansing removed, after which she rapidly got better.

Mr. THORBURN: I have very little to add except my thanks to Capt. Head. I think it would be a very great pity if the Order were dropped. I have never seen so much abortion anywhere as in my district (Somerset) where the Order is not in force. Just a word about removing the cleansing. I think it a great mistake to inject antiseptics at all, as in my opinion this retards the separation of the cleansing from the cotyledons. I use boiled warm water only. I am glad to hear Capt. Head is so optimistic about the ease of stamping out the disease, because it will not only be a great blessing to the country, but a credit to our profession.

Mr. BOND: I am delighted we were so fortunate as to get Capt. Head to give us this paper, it has come just at the right time. You will probably remember Prof. Axe gave us a paper at Tavistock on the same subject some years ago, but very little came of it. I had an interesting and somewhat amusing experience some little time ago. I was called to a cow said to have aborted, took smears, and as a result reported it to be contagious. The owner was dissatisfied, so we consulted Sir John M'Fadyean, who suggested applying the agglutination test; the result being positive. The owner then wished to have the remainder of his cows, 11 in number, tested. Two of these were said to be affected, and the other nine free. One of the two has gone her full time and produced a live calf, and the other is shortly likely to, while four of those said to be free have aborted. The knowledge that cows acquire

immunity is very valuable, and will be the means of saving thousands being fed off. I think cows should be kept four months before being put to the bull again.

Mr. BLOYE: I should like to ask Capt. Head on what authority he bases his statement that male and virgin animals are immune against this disease.

Mr. GIBBINGS: I do not agree with Capt. Head as to the ease of diagnosing contagious abortion with the aid of the microscope. It is not always easy to differentiate groups of staphylococci from Bang's bacillus; there are numbers of cases of contagious abortion where one cannot find the bacilli, and if you rely on microscopical examination only you may be led to erroneous conclusions. I think it is equally criminal to sell in-calf cows from an infected farm as to sell aborted cows with substituted calves, and legislation in this direction is necessary. I am one of those who believe it is impossible to kill the germs in the uterus by antiseptic injections. One would need to keep a pump going with a 5 per cent. solution all day. I hold it is impossible in a great number of cases to remove the cleansing without incurring the risk of serious injury to the cow.

REPLY.

Capt. HEAD: I think as a profession we, like medical men, jump from one extreme to the other, as witness our views with regard to antiseptics; we must remember that antiseptics do not kill germs, but prevent their growth. Hot water injections are quite good, and it is surprising what a lot of it the womb will stand. If the placenta is going to be taken away, and I think it should be, it is best done within three days as after that the os contracts and renders the operation more difficult. Replying to Mr. Bloye, I stated on the authority of Sir John McFadyean and Sir Stewart Stockman that the bacillus has never been found in the male or the virgin, the uterus being the only place in which it will grow. I do not see why abortion should take place at the second and not at the first calving. Personally I have found as much trouble with heifers as with cows. The period of two months for cleansing is based on the results of inoculation in which it has been proved to answer. The age for inoculation depends on when the animals are to be put to the bull, when that has been decided they should be inoculated two months beforehand. I do not know if calves from aborted calves acquire a life-long immunity, as I have not had time to prove it, but as far as I have come I have reason to believe it to be so. I cannot quite agree with some as to the value of the agglutination test, because I do not see what good it is to know which are and which are not going to abort, for if you take those that are affected out, the others may still pick up the disease from the same source as before.

I thank you, gentlemen, for the kind attention you have given me.

A hearty vote of thanks to Capt. Head, proposed from the chair, was carried with acclamation.

Mr. BLOYE: I claim it my privilege to move a cordial vote of thanks to my old friend Mr. Perry. It was my pleasure twelve months ago to propose him as our President, and I now have equal pleasure in testifying that he has, during his term of office, gone out of his way to be of more than ordinary service to the Association. This was seconded by Mr. R. E. L. Penhale, and unanimously carried.

On the motion of Mr. Thorburn, seconded by Mr. Roach, it was resolved to convey a vote of condolence to Mr. W. B. Nelder, of Exeter, on the death of his daughter.

WM. ASCOTT, Hon. Sec.

NORTH MIDLAND VETERINARY ASSOCIATION

[NATIONAL V.M.A.—NORTHERN BRANCH].

The quarterly meeting was held at the Grand Hotel, Sheffield, on April 21st. Present:—Messrs. F. L. Somerset, in the chair; J. S. Lloyd, Hon. Sec.; H. Thompson, Hon. Treasurer; G. Howe, W. Collinson, C. Secker Smith, S. H. Nixon, Bruce Selous, M. Robinson, W. Brown, G. J. Furness, H. P. Lewis, J. Abson, T. C. Fletcher, E. G. Johnson, G. Green, S. E. Sampson, W. Murgatroyd, R. Hudson, H. R. Laycock, and H. W. Dawes, jun.,

Visitors:—Messrs. J. W. Brittlebank, J. Pollard, J. D. Whitehead, and C. Pitts.

The minutes of the last quarterly meeting were read and confirmed, on the proposition of Mr. Robinson, seconded by Mr. Collinson.

The report of the Council meeting held on April 7th was read.

Hunting Petition. The President was authorised to sign the petition on behalf of the members.

A letter was read from Miss Louie Hunting thanking the Association for their resolution of sympathy.

Hunting Memorial Fund. Proposed by Mr. Smith, seconded by Mr. Thompson, that the matter be again deferred to the next quarterly meeting.

Other Correspondence. A letter was read from Mr. E. C. Winter soliciting the votes of the members on behalf of Mr. P. J. Howard, M.R.C.V.S., of Ennis, who is standing as a candidate for a seat on the Council of the Royal College of Veterinary Surgeons at the election in May next.

The PRESIDENT expressed the opinion that it is desirable that the Irish practitioners should have direct representation on the Council of the College, but that it should be left to individual members to vote as they wished.

Exco to Essayists. It was proposed by Mr. Furness, seconded by Mr. S. H. Nixon, that the sum of £1 1s. be allowed to essayists who come from a distance.

New Members. Mr. PERCY HOYLAND, of Rotherham, on the proposition of Mr. Collinson, seconded by Mr. Green, was nominated as a member of the Association.

Mr. W. WADSWORTH, M.R.C.V.S., of Sheffield, was elected a member of the Association.

Instruments. The question of the purchase and loan of instruments by the Association was discussed. The President suggested that the members should prepare a list of instruments which they do not possess and which they would like to use, and also a list of instruments which they have and which they are prepared to lend to other members of the Association.

Microscopist. Mr. T. C. FLETCHER proposed that a member of the Association should be appointed to act as honorary microscopist. He said, "we have a gentleman amongst us who is extremely intimate and clever with the use of the microscope, and as we are not all intimate and clever I think it would be advisable that, he being willing, specimens were sent him for examination. I will just enumerate a few. Perhaps first and foremost would be milk for the presence of tubercle bacilli, scrapings for parasitic mange, condition of certain forms of tumours from the dog, etc., and perhaps blood of anthrax, and several others, a list of which would want making out. Having a gentleman who seems willing to accept the post has eased my duties a good deal in bringing the matter before the Association, I do not see how any member of this Association can fall out with this idea, because I take it that if he does he is either very clever or does not want any help. If it meets your pleasure I should be very

pleased to ask Mr. H. P. Lewis, who I have in mind, to undertake the post. The details will want working out. I think the proper mode of procedure would be to ask Mr. Lewis to submit suggested regulations to the members.

THE PRESIDENT: The appointment would no doubt be very useful. The question is whether Mr. Lewis would undertake the work. No doubt he will tell you if he does accept that certain precautions will have to be taken in sending specimens, but he will probably give some sort of regulations as to the manner in which specimens should be sent. I have great pleasure in seconding the proposition and asking Mr. Lewis to take the office.

MR. H. P. LEWIS: I shall be extremely pleased to do anything I can. Anything I do will be for the benefit of the profession, and the members of this Association more particularly. I hope the members will look upon the position as purely an honorary one. I am much obliged for the honour you have done me in asking me to accept the position.

VETERINARY INSPECTION IN RELATION TO THE PUBLIC HEALTH SERVICE.

By J. W. BRITTLEBANK, M.R.C.V.S.
Veterinary Inspector City of Manchester.

I little suspected when I took up the invitation extended to me by Mr. Lloyd, and which naturally I highly appreciate, what a large and controversial subject I was entering upon.

To one who loves his profession, and has watched with interest the progress in scientific work made by the profession during the past twenty years, the first thought which occurs—how marked are the changes which are coming or have come in the professional existence of many of us, and the changes in this short period of years, which is really infinitesimal in the history of a profession, are most remarkable.

If you will forgive my being reminiscent and tempted to look back to the time when I joined the New Veterinary College, a student under that grand old man, Principal Williams, the prospects before those of us who were proceeding to obtain our diploma were practically limited to the choice of either general practice or attempting to enter the Army Veterinary Department, as it was then called. True, here and there a stray sheep from the better disciplined or more respectable flock might be found engaged in the municipal service—the work being confined principally to that of meat inspection. I say further, without fear of contradiction, that such gentlemen were regarded by their more fortunate professional brethren with ill-concealed contempt, and one frequently heard such an one referred to as occupying a suitable job “as he would never have done any good in practice”—that great and never failing test of a man's scientific attainments and work as a veterinarian. It was not to be presumed for a moment that it was necessary for any individual occupying such a position as a public official to have any special qualifications above the ordinary; it was, in fact, a “soft job.”

What is the change that this pioneer work of these ill-paid public servants has brought about for our profession to-day? Motor traction is displacing our equine friends in greatly increasing numbers year by year, and the pessimist tells us the days of the veterinarian are numbered, and that in a few generations the only evidence of his existence may be obtainable in the British Museum or other such collections which record the existence of bodies which are past. Personally, I have no place for pessimists; many of them have done well financially, are content to sit in their clubs and croak of the days that are gone and the fees that are no more, but would do little to help the pro-

fession to maintain its entity and secure its position in the van of progress. That such individuals are not too numerous in our profession is something to be thankful for; they are of no use to any but themselves.

I may be an optimist, but how many are there who will deny on reasonable grounds that there are avenues open and opening for the members of our profession which will provide employment ultimately for far more than are available were such openings to present themselves to-day—else why was the Select Committee appointed, under the chairmanship of Sir Alfred Hopkinson, to consider veterinary education and the provision of veterinarians for the public services? It will, however, depend largely upon our own capacity for statesmanship if we are to develop, and to secure the positions which will be ours by right.

What is the position of the veterinary public officer to-day, thanks to the unflinching efforts of those pioneers I have referred to? True, he is still ill-paid, and often occupies a subsidiary position, but he has progressed to the extent that he is admitted by his brethren, the general practitioners, to be on an equality, and has justified his existence, and is none the less a veterinary surgeon.

The public health veterinary surgeon occupies a somewhat curious position; he is engaged chiefly in the supervision of our food supplies, is principally occupied in the examination of meat and the inspection of dairy cattle, but for all that has very little legal standing. I need not enlarge upon this point, but would refer you to a very excellent paper read before the Lancashire Veterinary Medical Association at the December meeting by Mr. Whitehead, the veterinary officer to the Salford Corporation. As I have stated, the duties officially recognised are very circumscribed, but a veterinary officer is frequently called upon to exercise his activities in many other directions than those just referred to.

Of recent years much has been written and said about veterinary education, and I don't propose to refer to it at any length to-night, but it would perhaps not be out of place to inquire whether the veterinary education of to-day is calculated to suitably equip men to occupy the public positions which are opening. The principals of our veterinary colleges have almost unanimously said that the education provided is ample for any purpose. That is final, and should be sufficient, despite the contrary experience of many of us who occupy these positions.

With the curriculum of the veterinary student I have little fault to find; one might be tempted to criticise the methods employed for training, but with this I am little concerned for the present. This much I will say, and I have many opportunities for forming the opinions I express—that there is a great amount of excellent material coming through our colleges, many men who show great promise; but, without wishing to be dogmatic or egotistical, I still repeat that to make efficient public officials they require further training, and I certainly think this should be post graduate, and should not follow immediately upon obtaining the membership diploma.

Some of you may recollect that at the last meeting of the National Association Mr. Henry Gray read a paper entitled “Do we need a new Degree?” The principal object of this paper appeared to be an attack on those of us who had thought fit to obtain the necessary post-graduate training in one or other of our Universities, to exhibit an entire and lamentable ignorance of the nature of the duties we are likely to be called upon to perform, and to finish up with the brilliant conclusion that to carry out the work of a public health veterinary officer it is not at all necessary to be trained as a veterinary surgeon, but that a short course entitling one to emerge with the full glory of the title of veterinary sanitary

inspector was all that was required. A truly progressive proposition. Yet nobody has disputed the fact that it is necessary to have fully trained veterinary surgeons to attend to common ailments of canine and feline pets.

Fortunately the Royal College of Veterinary Surgeons has replied to this by deciding to establish a post-graduate degree to be entitled the Diploma in Veterinary State Medicine, and even if the decision has been arrived at late in the day, we must be thankful for small mercies. I do not really blame the Council of the Royal College for being dilatory. The lack of money, from which they suffer, is always bound to stand in the way of progress, but one may express a hope that nothing will be done to restrict the facilities for securing the necessary training. Many young veterinary surgeons cannot afford the time and money necessary if they have to give up their posts and proceed to one or other of the veterinary schools. Ample facilities are provided by most of the provincial Universities, and all that is required is for a student to attend an approved course and then be allowed to sit for the diploma granted by the Royal College of Veterinary Surgeons.

As I said earlier, the chief duties which veterinary surgeons are called upon to perform as public officers are the inspection and examination of foodstuffs and their sources. The inspector is usually attached to either a public health department or markets department, but it is immaterial which, he is none the less a public health official. In the first case he works under the direction of the medical officer of health, and where he is part of the staff of a markets department is under a lay superintendent. It will therefore be clear that for the present he is not chief of a department, but is responsible to an official higher placed than himself.

Much has been said from time to time of this condition of affairs, but for the most part it is a variety of vain howling at our lot, with little prospect of escape to more independent surroundings. Naturally, every self-reliant veterinary surgeon who is not afraid of responsibility objects to supervision by people who little understand the nature of the work he may be called upon to perform; but shall we gain anything by abusing these people, and by recording instances of their follies? I venture to think not. We are, as a profession, numerically small; the medical officers of health hold the fort, and the prospects of successful assault are infinitesimal.

It is, for instance, provided even in the Milk Clause that a "medical officer may, if accompanied by a veterinary surgeon, at all reasonable hours enter the dairy and inspect the cows kept therein"—a truly Gilbertian situation, which does not even indicate that the veterinary surgeon is to examine the cows, but that the veterinarian may wander about under the fostering care of that highly intelligent and impressively superior being the average medical officer of health.

Certainly the Parliamentary Committee of the Royal College of Veterinary Surgeons were successful in obtaining an improved amendment of this Clause—but why, in the name of fortune or common sense, is it necessary for the medical officer to be there at all? By far the greater number of them—I am not exaggerating when I say 99 per cent.—know as much about cattle as I do about higher theology, and that is precious little; but for the time being such is the law, and we must abide by it.

I do not suggest that we should separate from the medical profession—indeed, to my mind this would be a retrograde step, and for my part whatever the conditions, I would rather work under a professional man than a layman. The scientific difficulties one has to contend with will be more apparent to the former, while to the latter the business aspects of any problem will remain paramount. I think the proper method of procedure is for the profession to secure in all Parlia-

mentary Bills a clear and definite position for the veterinary officer, a position which will place him as his professional qualifications entitle him to be placed. Young veterinary surgeons should secure as many of the appointments as possible, never minding the position of affairs as they stand to-day; then when we are numerically strong enough to have an efficient combination, we shall be able to force the hands of the authorities and compel them to place them on a proper footing.

It must be remembered that general abuse of the medical officer has two effects—(1) To restrain him from recommending the appointment of veterinary officers; (2) that in many cases where such are appointed it does not help to improve their position. Instead, let us have something constructive, something definite to work for; we are all desirous of obtaining the same end, and it therefore becomes a question as to which is the soundest policy.

The question of veterinary meat inspection is one that requires urgent attention. It cannot be insisted upon too strongly that the proper man for this position is the veterinary surgeon. I do not object to lay assistance where necessary, but the controlling head should be a veterinary surgeon.

The next question is: Has scientific meat inspection progressed as it ought during the past few years? I think that on the whole the question may be answered in the affirmative. It must be remembered that the opportunities for proper scientific work are limited. A large number of private slaughter-houses still exist, and until they are abolished and a proper system established in public abattoirs progress will be slow.

Many municipal abattoirs exist—there are few, however, in this country which would comply with modern requirements. For instance, how many are equipped with properly furnished bacteriological laboratories? The paucity of such establishments is evidenced by the almost entire absence from our professional journals of any work notes in a post-mortem field of such immense and unlimited extent. It may be said that the veterinarians engaged in meat inspection are too busy to do any research work, and this may be true, but as a rule an enthusiast will find the necessary time if he wishes to.

There should be a uniform standard of compulsory meat inspection throughout the country—at present the traders of one community are penalised while others go scot-free, and both may be found making their purchases in the same live market.

The qualifications of a veterinary surgeon do not entitle him to act legally as a meat inspector, and it is necessary for him to be appointed an inspector of nuisances before he can seize unwholesome food. This requires drastic amendment at the very first opportunity.

It is of little use entering too deeply into details, but the sphere of activities of the public health veterinary officer is unlimited. He should be the veterinary officer of health in reality, and the conditions appertaining to the health and housing of all animals in his area should be his special care.

There may be some little objection to the use of the title of Veterinary Officer of Health. It is adopted I know fairly commonly, and for lack of something better. I presume it denotes the position of such official, but for my own part I do not care much about it as I do not wish it to appear that we are copying our medical *contrères* or rather attempting to bask in a cheap imitation of their titles. What is it that is required to obtain this efficient control? First of all we require new legislation. If you will think of the legislation which we possess to-day and the powers under which we act generally you will find that they are built up principally in a "hodge-podge" sort of way by a number of

Orders which are made under old-existing Acts, and it will be practically impossible in my opinion for the veterinary surgeon of to-day to make very much progress until the whole legal aspect of the question is reconsidered. This affects the practitioner quite as much as the whole-time officer.

I may here refer to this question. I know that to many the term "whole-time officer" is a sort of bug-bear, but I think that the time is rapidly coming when the profession should look at these things from a broader point of view. The whole-time officer has come to stay. He has in his hands a good deal of authority, and I cannot for the life of me see him doing his professional brother in practice the slightest harm. If you look back to the history of the medical profession, with whom I think we are distinctly comparable, and on whose lines we might safely follow if we wish to put ourselves where we ought to be, we shall see that the medical profession is perhaps to-day in a more prosperous position than it ever was. To obtain this position (of course that celebrated statesman, who is much abused and much praised in certain quarters has undoubtedly assisted in no small degree), the first step which was taken was the passing of the Infectious Diseases Notification Act. When that Act was passed it made the notification of infectious disease compulsory alike upon the parent as upon the medical attendant. Following that a little later the medical attendant was paid for the notification which he made, and following that again came the necessity of having an official to receive these notifications, and to deal with the preventive measures which were necessary under the Public Health Acts which were in existence.

The veterinary profession to-day, perhaps not quite so much as in the past, seems to object to be required to notify disease. There is much to be said on both sides, but I think in the long run that if the veterinary attendant were required to notify and were paid for his notification of contagious diseases, and if a proper system of notification were established, then it would not be long before the owners of animals would get quite as used to it as the human patients have got with the system to-day. Until such system is brought about there can be no efficient control of disease in this country. The next step would be the appointment of public veterinary officers generally throughout the country. What would be the effect of this? Would it take work out of the hands of the practitioner? My personal conviction is that it would never do so, because a man's time—those of us who are already public officials know it—is fully occupied with carrying out administrative work without trying to collar anything in the way of another man's living.

The present position of affairs is about as clumsy as it is possible to imagine. The whole control of animal diseases is centralised. The essential requirements to properly control any area are that a man shall know the area with which he has to deal, and that he shall be personally known to a very large number of the people with whom he has to deal. To-day you find that various diseases are notifiable and administered from various quarters. I need not refer to them—most of you know them perfectly well—but if we have a scare that there is an outbreak of foot-and-mouth disease, the local veterinary officer is regarded as incapable of dealing with it, and it is necessary to send a notification to the Central Authority and they come down to deal with the matter themselves. The system that is at work to-day may be a necessity, but it is not the system that one would like to see existing. The ideal would be the establishment for every area of a fully equipped veterinary department which would deal with every animal disease which arises within its area, and responsible to the Board of Agriculture, and to do this successfully the whole profession would have to form part of this

service—as in the medical profession, but unfortunately there seems very little prospect of these steps being taken. We have to go along working under these patch-work orders, and the position of the veterinarian will remain very largely what it is. In odd cases it will be found possible to obtain a greater amount of control and to improve the conditions, but the general conditions will remain, and I therefore strongly think that the profession requires to recommend fresh legislation to take the place of the obsolete legislation under which we work to-day, and then be all prepared to follow what might be called the trade union methods of the British Medical Association when we are sufficiently combined. I do not see why our profession should not become as combined as the medical profession, and then be able to obtain the positions that are its right.

There is one matter in dealing with the questions of legislation which I think might be proposed—that as far as possible the whole of the administrative powers should be placed in the hands of the veterinary profession. At present the police are the predominant parties. They are useful in their proper place, but in my opinion when police methods are pre-eminent the notification of disease becomes practically a dead letter, and the veterinary inspector himself shows a tendency to assume a sort of police attitude; thus the whole procedure is calculated to breed resentment.

Another illustration which we have to-day in the piece of legislation which is the last one passed—the Tuberculosis Order. If I were asked to say what was the stumbling block in the way of that Order I would undoubtedly say the influence of the police. I have seen a good deal of it. Those people who are required to notify disease, and the veterinary surgeons in practice who are required to notify, are in much the same position. These people have done no crime, and yet when the policeman gets on the premises the man is treated very much as if he had committed a crime until the unfortunate animal or animals are destroyed. My firm conviction is that that is one of the reasons why the Tuberculosis Order is not working as smoothly as the veterinary officers of the Board would wish it to do. If the veterinary officers of the Board and local veterinary officers were to carry out this Order themselves, and to carry out the administrative measures necessary as they strike the man on the spot, without a lot of red tape, irrespective of the grumbling as to the scale of compensation, I believe a tremendous amount would be made out of this Order.

There are no possible means of finding out to-day the number of cases which arise in country districts. Many of the conditions which are of vital interest to farmers are never mentioned. I was speaking a little while ago to a big farmer who had a very serious outbreak amongst his ewes, and I advised him to notify to Sir Stewart Stockman and see what he could do. His reply was "I do not object to the veterinary inspector of the Board if he would only come here without the policeman and the lay inspector," and I think he was nearly right.

The next question which arises is—How is this profession and its members to obtain its proper place irrespective of the legislation which I have mentioned. I think we have been too much inclined to plough this lonely furrow on our own. We have stood on our dignity, and have been perfectly satisfied to go on fighting this uphill battle alone. We have made progress, but it is a question if we have made the progress we ought. I think if our profession were to make overtures not to another profession who only patronise us, but to the large agricultural interests in this country, and could get their backing, we should very soon secure what we want, or at any rate a certain measure of it. I mean large national bodies like the Royal Agricultural Society of England and the Central Chamber of Agri-

culture. These people are brought daily into intimate contact with us. They know that to a very large extent the health of their stocks and the prosperity of their business so far as their stocks are concerned are in our hands, and I do not think it would take very much to make these people take up our case. It is quite useless for a small profession like ours to remain by themselves. I do not know exactly how many veterinary surgeons there are in this country, probably not many more than 2000 in active practice, and what do they represent?—a very small money capital. That is the way the Government are apt to look on things. What is the capital in the body, and what is their voting power? As a voting power we are only scattered units, and we have, most of us, only one vote each; while we are so situated we are helpless. Go to the industry in which we are interested. We form part and parcel of that industry, get their backing, and I feel sure that it would not take very long to get those amendments to Acts which are our right. Those Public Health Acts Amendments which say that the medical officer of health, if accompanied by a veterinary officer, may at any hour examine the cattle are an insult to our profession. I note the Parliamentary Committee have got the stipulation that the veterinary surgeon shall examine the cows, but he has still to have his medical officer with him. I do not want to labour this question. I have treated it in a very sketchy sort of way. I did not want to read a lot of Acts and Orders, but there is one thing that I do ask for—that is if our profession is to continue to exist, there must be no jealousies with regard to public officials. In the district in which I work, and I am sure Mr. Lloyd will have experienced the same, we receive nothing but kindness from the men in practice. In making the remarks about medical officers I do not make them from my own point of view, I make them from the standpoint of other men. My own medical officer is one of the strongest advocates for a public veterinary service that we can possibly have. I am responsible for all the administration, but he has a perfect right to discuss details, and discuss them he does. He leaves everything to me, but the fact remains that if he likes to exercise his right he can place me in the position of an inferior sanitary inspector, and make me realise that I am some sort of a worm that is ready to be trodden on at any hour.

DISCUSSION.

The PRESIDENT: Our first duty will be to acknowledge with gratitude the kindness of our friend Mr. Brittlebank in coming down and giving us this address. He is well qualified to give an address on this subject as you are all well aware. There are one or two gentlemen present who occupy positions somewhat similar to that of Mr. Brittlebank, and who no doubt will have something to say on this particular question. Others of us are sort of half-and-half men, who are not whole-time men, but who have appointments which one might describe as appointments under Public Health, such as dealing with animals under the Tuberculosis Order, and as Board of Agriculture Inspectors as well. Those of us who have these positions will have noticed the disposition of the Central Authority to take over the administration of the various Orders which come under the Act. They started with swine fever, and they have not made a very sound job of that, and now they take foot-and-mouth, and now anthrax, which was formerly left in the hands of the local authority. The local veterinary inspector has to send specimens to the veterinary inspector of the Board. Perhaps some of you would notice in one of the periodicals some time ago that cases had not been confirmed by the Central Authority which there was very good reason to believe should have been confirmed. My own experience is that they are quite as capable of making mistakes as anyone else. There

are cases which have not been confirmed which should have been, and it is annoying for the local veterinary inspector to have that slur cast on his diagnostic abilities; but at present there is no redress, and if they say it is not a case it is not a case, and you must put up with it.

As to the lines we should adopt in order to get greater recognition, Mr. Brittlebank recommends that we should appeal to the agriculturist. Well, the agriculturists are, as a rule, men with a keen eye on the rates, and the increase of officials is a thing which they are very much opposed to. The idea of appealing to them to vote for the establishment of Veterinary Departments which involve an increase in the rates would not meet with much success.

I quite agree with Mr. Brittlebank on one point—that a stumbling block in the proper administration of the Tuberculosis Orders is the police, but there are ways and means of the police being made use of if they can only be prevailed upon to do it. If they will go in their private clothes it will not be half so objectionable to the farmer. If a dairyman has police in uniform popping in and out of his place all along, it attracts the attention of his customers, and I find that if the farmers get a diseased animal they pack it off quietly to the knackers in preference to notifying and getting compensation. The consequence is that notification throughout the country is becoming practically a dead letter, although I dare say the veterinary practitioners do their duty. But the attendance of the police undoubtedly interferes with notification.

I will not say more except to add my personal thanks to Mr. Brittlebank for attending and giving us his interesting paper.

MR. WHITEHEAD: There is one question which Mr. Brittlebank brought forward to which I wish to refer—the question of meat inspection and post-graduate instruction. My own experience is that after coming out of College one is not competent to become an efficient meat inspector, and I am also of opinion that the great grievance of the butcher in the non-standardisation of meat inspection would be lessened if there was veterinary inspection of meat, and if all those veterinary surgeons inspecting meat had some time after their qualification had some post-graduate training, and in the course of that training had an opportunity of seeing what other men were doing—not what they were passing but what they were condemning. By taking this course one gets an opportunity of seeing the methods of men who have collaborated other men's experience. You would get the meat trade, which is undoubtedly an influential trade, to support the profession. Of course I am quite open to admit that many of us men in public work have not done anything great in the way of meat inspection. All I can say personally is that I cannot get the information—the butchers won't give it me.

Another matter is this question of the decentralisation of veterinary administration, and the appointment of veterinary officers for large areas. If every veterinary surgeon in his own area was *ipso facto* a public health official and an inspector of meat (I do not say the veterinary officer would go round looking around for meat), but if the sanitary inspectors were not allowed to do anything but only to report to the veterinary surgeons I think we would then make one great step towards doing away with a real grievance. At the present moment this is a very poignant question. One has only to go about the district and hear the butchers speak.

Then there is the question of the veterinary inspectors relation to public health work. Mr. Brittlebank I know is doing very useful work as regards buildings, but many local authorities will not go on with it until we get a new Public Health Act in which the veterinary officer is given a definite standing.

Mr. HOWE: I must say that I have been very much interested in hearing the address by Mr. Brittlebank. He is a well known authority, and I am sure any views he ventilates we always look upon as requiring our most serious attention.

The last speaker (Mr. Whitehead) incidentally referred to the sanitation of buildings. We shall never get any alteration whilst the legislation has to be dealt with by rural district councils, because the members are in some way interested, and when they are called upon to use drastic measures which involve heavy expenditure they do not press the matter.

I am very much interested in the subject of tuberculosis because I have had several cases to deal with since the Order came into force. We have been very badly handled in my county, although I do think that if there is anyone who tries to do their duty it is the members of our profession. They are not only worthy of their hire, but are, I am sure, as a profession, very helpful to the community.

Mr. POLLARD: The only thing I can say with regard to the Tuberculosis Order is that our experience is not quite the same as others with regard to the bugbear of the policeman. Our procedure is for the police to take the report and pass it on to the veterinary inspector. The chief trouble is with regard to compensation. I think they may as well away with it to the knacker and do away with the searching for other animals affected. Of course it does sometimes happen that there may be another case stowed away in some corner.

Of course one can see the importance of the ventilation of cowsheds. I agree with Mr. Brittlebank's remarks. The cleanliness of cattle is more a question with us.

Mr. E. G. JOHNSON: I should like to express what are my own feelings, that it is very gratifying to have an opportunity like this to call in the midst of our labours and hear such an able address as one has had the privilege of hearing this evening. In view of the fact that the general practitioner had some little prejudice against the official veterinary surgeon, the paper this afternoon proves that the veterinary practitioner is greatly indebted to the veterinary officer. We hear a great deal about the progress of the profession, and I take it that as members of the profession we are very anxious to take part in that progress. We live in times when motor, electric, and compressed air haulage are taking away a very great deal of our living, and for some of us who have seen the halcyon days of the profession and begin to view things with a rather pessimistic outlook, it is gratifying to know, through our friend Mr. Brittlebank, that there is a better prospect before the veterinary surgeons. He emphasised once or twice the young members of the profession, and it is gratifying to know that those who are young have some reasons to look forward hopefully; and even for those who are going gently down in the evening of our days there is something to soften the dying moments. I should like to emphasise that whilst it is stimulating to the young ones it makes some of us who are nearer 85 than 25 see that it is advisable for the profession to take advantage of the evolutions of the time.

I am very much gratified, not only from personal interest but from that happy spirit of *camaraderie* in our profession, that there are some matters in which we may co-operate to guide and direct these revolutionary changes so that they may be of advantage to our profession. I may say that experience has shown that Mr. Brittlebank has touched upon the main lines on which we ought to go. One is glad to know that one has the opportunity of meeting men who have the matter of the status of our profession at heart. We find wherever we go a noticeable desire to improve the status of our profession. In his paper Mr. Brittlebank has said we shall never advance much by jealousy, and

as a small body we shall not advance much by frontal attacks, but it is essential that every opportunity that is afforded for us to guide and direct legislation and administration which may happen for the good of our profession shall be seized. It does no doubt afford all of us pleasure to meet like this, and it would be better for us to meet more than we do, for the purpose of watching where our interests are concerned, and doing all we can with the co-operation of whole-time officials and practitioners to forward the progress of our profession.

This afternoon I have had the pleasure of hearing two gentlemen speak who are inspectors for two counties. I am an inspector for two counties, and in the two counties you have absolutely opposed conditions—you have a parsimonious and penurious group on the one side, and on the other, one gets quite fair treatment. In one county the matter is left almost entirely in the hands of the veterinary surgeon. I see another has had the same experience. We ought to stick at the former county through our Association, and get reasonable fees allowed.

I endorse what the President said—the chairman of a local authority often looks upon the veterinary officer simply as a man who takes his money out of the rates. We have always to remember this, Mr. Chairman, that whenever we are out to do something for the profession, whether we are seeking to ally ourselves with the Association, or whether we are seeking to ally ourselves with the servants of the city or of the county, we have strongly to avoid the question of self-interest. I have had occasion to speak at Farmers' Union meetings, and I have always been looked upon with a certain amount of suspicion. They should be made to feel that when you have a brief for bringing something before them it is for the public good.

Mr. LLOYD: I do not think I should be doing my duty unless I propose a very hearty vote of thanks to Mr. Brittlebank for coming here to address us to-day. It may have been unintentional on his part, but he seems to have been hitting me very hard. Anyhow the cap seemed to fit. He spoke about the pessimist and the frontal attacks. I am bound to acknowledge that I have been beaten, and in consequence I have become a pessimist. He has given us various reasons why we should not make frontal attacks, and why we, as a small profession, cannot hope to get any benefit from them. He has on the other hand given us one or two ways in which he thought we might possibly get some benefit. One of the ways was in reference to approaching agricultural bodies. That has been mentioned by one or two speakers, but I think has been taken up in a way that Mr. Brittlebank did not intend—he did not mean local, but national agricultural bodies—bodies like the Central Chamber of Agriculture, Animals Tuberculosis Committee, the Royal Agricultural Society of England, Highland and Agricultural Society of Scotland, and the Royal Dublin Society. They are bodies not influenced by the rates. They may not be bodies that are in very great sympathy with the veterinary profession, but they are in sympathy with us to some extent, and I think if we approached them we should get their support. I know that as regards the Central Chamber of Agriculture, Prof. Penberthy is doing his level best for the veterinary profession, and although he is not at present a practising veterinary surgeon, I have no doubt that his professional experience is standing him in good stead in his remarks to these bodies. What Mr. Brittlebank has not told us is how we are to approach these bodies, and I put it to members to-day to get up and suggest how we are to approach them. I have one or two things in my mind. I, for one, have been a member of the Council for four years, and during that time the Council have done nothing to enlist the sympathy of the agricultural bodies. Then

again there is the National Veterinary Association. Is this Society going to do anything to raise the status of the veterinary officer. Mr. Brittlebank, as you are probably aware, is a candidate for election to the Council of the Royal College of Veterinary Surgeons. I put it forward to Mr. Brittlebank that if he can get the Royal College of Veterinary Surgeons or the Council of the National Veterinary Association to move in this matter he will be a success.

Whilst speaking of the medical officer of health I am not going to run him down, but I will say this—that backed up by the Local Government Board, and backed up as he is by the Association of Medical Officers of Health, we, as a veterinary profession and veterinary officials, have no chance of improving our status in that direction. In 1901 I know that the Association of Medical Officers of Health passed a resolution that on no condition would they advise their Corporation to appoint whole-time veterinary surgeons excepting as subordinate officers to themselves. I do not know of any appointments since that time where that resolution has not been adhered to. We know that there was last week a big fight in Edinburgh with regard to the establishment of a Veterinary Department. Three members of the Health and three members of the Markets Committees were appointed to go into the question. This sub-committee was equally divided—three members voting for the establishment of a separate veterinary department, whilst the other three were in favour of it remaining under the Medical Officer of Health. The matter went before the Council, and it was decided to improve the conditions of the veterinary inspectors, but to leave them subordinate officials in the Medical Officers Department. If veterinary officers on retirement can only reach such a paltry salary as say £200 a year after many years service there is no wonder why eminent veterinary surgeons are not bringing up their sons in the profession.

Tuberculosis Order and meat inspection : Usually in regard to meat inspection a veterinary surgeon has to be appointed an Inspector of Nuisances before he has any power as meat inspector under the Public Health Acts. Under the "Sheffield Corporation Act, 1912," the veterinary inspector has the same powers as the medical officer or inspector of nuisances. The same thing applies in Swansea under one of their local Acts. In Sheffield also the administration of the Tuberculosis Order is entirely in the hands of the Veterinary Department—the police having nothing to do with it.

Some one mentioned a point about the diagnosis of anthrax. Now that is a point that is coming to the front very quickly. The county of Aberdeen is the most prolific county as regards anthrax. Not more than two-thirds of the "smears" that are sent up to the Board are confirmed, but in the meantime the farmers have had the carcasses of the affected animals destroyed and the premises disinfected in compliance with the Anthrax Order. They have had to pay insurance against anthrax, but because the Board do not confirm the local inspectors' diagnosis the insurance companies refuse to pay. I know the County Council are taking up this question, and are approaching the Board of Agriculture with reference to some change being made.

I have very great pleasure in proposing that Mr. Brittlebank be given a hearty vote of thanks for his presence here to-day.

Mr. Anson : I am delighted to second the proposition. I know Mr. Brittlebank extremely well and I am sure there is no member of the profession who is more able to give an opinion on the subjects which he has touched upon. I am sure we are all indebted to him for the splendid paper he has given us. Perhaps he has not touched the heart of all the members here, but his remarks may concern the members who are publicly

employed. He has dealt with the matter in a very searching manner, and I have very great pleasure in seconding the proposition.

The vote of thanks was carried with acclamation.

Mr. BRITTLEBANK : I need not say very much in reply, only to thank you for the kind way in which you listened to the few remarks I had to make, but I can say that I greatly appreciate your vote of thanks.

I know perfectly well that my subject is one which it is extremely difficult to treat to make it interesting to those who are not concerned in the spheres of work which we have to live in. I know that much that one has to say is regarded as rapid outpourings of an optimist, but in any of those questions of professional progress such as I think our profession is going through, I think there is distinct room for optimism. My way of looking at life is largely this—that if you go into the highways and byways crying stinking fish about your profession the public will accept you at your own assessment. If you go into the street and tell a man you are a fool he won't contradict you; but if you are able to convince people that you have some useful sphere on this globe, their influence to assist you to the new sphere of public service will not be withheld.

The discussion which has followed my remarks has been too kind. I expect really when a discussion of this sort takes place that one should put off the gloves and let us have a little bit of straight hitting. Mr. Lloyd, if I may be pardoned for referring first of all to him, referred to this question of hitting direct. When I spoke as I did I had no particular person in view. Mr. Lloyd and I have been very intimate friends for many years now. His views and my views are not the same, but Mr. Lloyd is Britisher enough to appreciate the fact that I would not come here to hit at him without saying that I was hitting at him. As a matter of fact the view that I take of the position is a sort of general survey of what we have achieved in the few years we have been in the public service, and we have achieved mighty little. Mr. Lloyd has let you into a secret which was known to a lot of us about the medical officer and his Association. Knowing this feeling very well, and knowing the unassailable position in which medical officers are placed, it behoves us to look around and see if there is not another method. The President wisely remarked that he did not think we could get the farmers to help us. When I threw out the suggestion I threw it out meaning the Council of the Royal Agricultural Association. I would not have anything to do with a local agricultural association. We know perfectly well that their view is limited to their own interests. We must go to someone who will look at it from the point of view of public policy as to whether it will benefit agriculture, and if it is so, and we can get their help, it may be of great assistance to us.

Mr. Lloyd referred to the Royal College of Veterinary Surgeons—at present I am only a candidate and am not prepared to say what they will do. I do think the Royal College and the National Veterinary Association should do something. Our National Association is newly constituted, and has really not yet had a proper opportunity of showing what it will be able to do. Unfortunately, we have lost our dear old friend Hunting, and there have been a good many things in the way of allowing the National Association to take steps in these matters. I regard the National Association as a sort of Trades Union. The term is perhaps objectionable, but its power and utility if properly carried out would be very great. The British Medical Association, which has been the model for our Association, has achieved an enormous amount of good for the medical profession, and if the National Association are statesmen enough to approach this problem in the same way, I feel they will be very largely able to carry out this object in the same way as is done for the medical profession. But I

do not think that will be done without the aid of the veterinary practitioner. In my humble opinion the interests of the profession are one, and I think the objects of the whole-time officer and the practitioner are one. If one progresses the other will progress, and it therefore behoves us to hang together and push the interests of the profession, not from a selfish point of view, but on the grounds of public policy if we are to accomplish anything which will be better for our profession.

Mr. Pollard referred to having no difficulty with the Police. One quite recognises that the policemen who are in cities and towns are not difficult to deal with, it is the County Police in country areas that I referred to more particularly.

Much of what transpired requires no reply. Mr. Pollard referred to the question of keeping cows clean. That simply requires a Bye-law under the Dairies, Cowsheds and Milkshops Order. In the City of Manchester we have a Bye-law, and any man who does not keep his cows clean may be prosecuted and fined.

Mr. Whitehead referred to the question of housing of stock. This is a national question, and I suggest that the whole of it should be under the control of the veterinary officer. In the city which I serve, no building for the housing of animals is allowed to be put up without my approval. The whole of the conditions are laid down by me, and the plans are all submitted to me before they are submitted to the Improvement Committee. The same applies to the reconstruction of old buildings. I think we shall be able to ultimately get complete control of the conditions under which animals live. The present conditions are grossly unfair. The

owners of property are frequently imposed upon. Going about the country districts as I do, seeing the patch-work jobs that are done to the instructions of medical officers of health and sanitary inspectors, it makes one sick at heart to realise the calls that have been made upon the owners of property, and which have effected nothing.

Gentlemen, I once more thank you very heartily for the very great kindness which you have shown me.

SPECIMENS.

Mr. S. E. SAMPSON exhibited a specimen of fracture of the os calcis, and also exhibited some crude splints which the farmer had applied to the animal under the belief that the fetlock was fractured, in order to keep it in its place.

The PRESIDENT exhibited the testicle of a pony in connection with which there had been a large growth for some years. Previous to the animal's death he had been under the impression that the growth was a diseased testicle, but upon post-mortem examination the testicle was found to be in a healthy condition with the tumour in apposition. It had not affected the animal's health in any way.

Also an improved needle for inoculation with "black-legine." He said that he found the needles usually supplied by instrument makers were too frail, often snapping off and in other ways being unreliable.

Also a large urinal calculus, which had been passed by a horse in the practice of a friend.

Mr. HUDSON (Retford) exhibited a specimen of cod fish in which were embedded a number of thread worms.

A vote of thanks to the President terminated the meeting.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.		Outbreaks	Slaughtered.*
	(a)		(a)		(b)		(b)		(b)	(a)	
GT. BRITAIN.											
Week ended May 2	22	23			1	1	35	60		107	1461
Corresponding week in											
1913 ...	8	9			2	11	52	95		58	768
1912 ...	12	12			3	4	44	95	6	87	992
1911 ...	18	23			5	7			1	53	623
Total for 18 weeks, 1914	337	360	11	74	33	78	1144	2083	139	1272	12819
Corresponding period in											
1913 ...	242	260			61	204	1295	2693	112	748	10098
1912 ...	406	456			60	136	1815	4067	156	1193	15017
1911 ...	360	421	1	18	76	221			293	808	8592

(a) Confirmed. (b) Reported by Local Authorities.
Board of Agriculture and Fisheries, May 5, 1914.

† Counties affected, animals attacked: Surrey 1.

IRELAND.	Week ended May 2	4	64	Outbreaks	...	7	4	30
Corresponding Week in {	1913 ...	...	...	...	...	...	...	1	9	10	14
	1912 ...	...	...	...	...	...	...	3	3	3	102
	1911 ...	1	1	...	...	...	...	...	3	2	8
Total for 18 weeks, 1914		...	...	71	956	...	...	39	318	95	421
Corresponding period in {	1913 ...	...	...	...	...	...	...	80	254	58	308
	1912 ...	1	1	...	...	...	...	34	243	90	814
	1911 ...	4	4	...	...	1	2	37	227	47	807

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, May 5, 1914
NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Animal Diseases—Demand for Research.

At a meeting of the Berks and Oxon Chamber of Agriculture on Saturday last it was proposed—"That further research in swine fever should be undertaken at one or more University centres as well as at the Government Laboratory at Alpertón."

Some difference of opinion was shown on the question whether official research—as opposed to research at a University—is or is not necessarily biased, but all those taking part in the discussion acknowledged the advantage of free and full inquiry.

A letter was read from Sir Clifford Allbutt, Professor of Physic at the University of Cambridge, in the course of which he wrote—"Let me ask you whether the time has not come to abandon the method of slaughter, or at any rate to regard it with profound dissatisfaction and as a mere wasting of time. What, then, ought we to do to obtain knowledge of swine fever? My answer is, refer it to University research. Animal medicine will never come to its own, nor indeed will man medicine either, until the subject of disease is recognised and grappled with as a whole. Medical observation of plague would have been to-day where it was 20 years ago if the observer of man had neglected the rat and the flea, and malaria and yellow fever would still be raging unchecked if the flimsiest of gnats had escaped the ubiquitous vision of the comparative pathologist."

Sir John McFadyean brought forward statistical evidence to show that since the control of swine fever had been in the hands of the Board of Agriculture—a matter of 20 years—a steady decline in the number of outbreaks had taken place. From 6,305 outbreaks in 1894 the number had fallen to 2,573 last year. The net result of the 20 years' administration was a 50 per cent. reduction in prevalence. The present position, however, was somewhat disappointing, because complete extermination had not been accomplished. He believed that a thorough system of isolation and slaughtering of infected pigs, and pigs in contact with them, would end this disease as it had ended cattle plague. The conditions in this country were superior to those in foreign countries.

The assertion that the Board of Agriculture, in virtue of its powers, centralised all control and reserved to itself all experimental research in connection with contagious animal disease was erroneous. The suggestion that the public could not get independent advice was without foundation. Nor was it true that the Board of Agriculture in any way biased the minds of its workers. It was an accolade to them to assert that the veterinary colleges in this country were incapable of conducting research and that no useful research had been carried out at home.

Dr. Greenwood said that it was necessary to compare things which were alike. Before 1893 the diagnosis of the disease was faulty, and there was reason to believe that many outbreaks were called swine fever which in reality were nothing of the kind. Moreover, measurement by "outbreak" was inaccurate. One outbreak of diphtheria in a city might be a much more serious matter than 10 in small villages. His own work showed that the disease, swine fever, had increased over a 12-year period in the proportion of 15 to 22.

Dr. Nuttall associated himself with the plea for university research. He believed that research carried on by official bodies was apt to be biased. He knew of cases where results had been obtained contrary to those desired by the bodies paying for the research. These results were pigeon-holed and hidden away. One piece of work performed in this country had been thus pigeon-holed during two years, and he could tell of cases occurring in Germany, France, Italy, the United States, Africa, India, and Australia. It was a disgrace

that veterinary science had not more recognition. The time had come to link up human and animal medicine, and the linking would be a great advantage to both, and would help to clear up many obscure disease problems. At Cambridge they had made a start, and they were determined to go on.—*The Times*.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, May 5.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Sqdn. Sergt.-Major A. Robb, jr., from the Lanarkshire (Queen's Own Royal Glasgow and Lower Ward of Lanarkshire) Yeomanry, to be Lieut. Dated May 6.

Personal.

GOLLEDGE.—On April 13th, at Ashford, Kent, the wife of Hedley C. D. Golledge, M.R.C.V.S., of a son.

DIXON—SCARLETT.—At Holy Trinity Church, Margate, on Wednesday, 29th ult., a wedding took place between Miss Constance Emily Dixon, daughter of Mr. Edward Lyne Dixon, M.R.C.V.S., of Granville House, The Grosvenor, Margate, and Mr. John Walter Scarlett, son of Mr. and Mrs. John Walter Scarlett, Beechcroft, Newington, Ramsgate. Both Bride and Bridegroom come of well-known Thanet families, and the esteem in which they are held was shown by the large attendance at the church.

The service was fully choral, the hymns sung being "The Voice that breathed o'er Eden," and "O! Perfect Love." Dr. Bellerby presided at the organ.

The bridesmaids were Miss D. Scarlett, sister of the bridegroom, Miss Bobby, and Miss Bellerby, and Mr. Ernest Dixon, M.R.C.V.S., acted as best man.

An interesting feature was the attendance of twenty ladies of the Margate Ladies Hockey Club (of which the bride was captain) who formed an archway with their hockey sticks decorated with white satin, under which the couple passed as they left the church.

The honeymoon is to be spent at Torquay. The presents, which were very handsome, numbered over one hundred.

After the ceremony a reception was held at the Naylor Rock Hotel, amongst the guests being the Mayor and Mayoress of Margate (Alderman and Mrs. W. B. Reeve), the Mayor and Mayoress of Ramsgate (Councillor and Mrs. G. G. Cook), Alderman D. T. and Mrs. Evans, Dr. and Mrs. C. F. Lyne Dixon, Mr. and Mrs. Walter Hills, and others, the guests numbering 175 in all.—*East Kent Times*.

OBITUARY

J. A. MCGREGOR, M.R.C.V.S., Old Deer, Aberdeenshire. Graduated, Edin: May, 1899.

Mr. McGregor died on April 13th. Aged 37 years.

MÉDECINE CANINE, par P. J. Cadiot et F. Breton, 8me Ed., small 8vo., cl. pp. x + 372; with 69 illustrations in the text, and 25 p. adverts. Six francs.

PARASITES et MALADIES PARASITAIRES du CHIEN et du CHAT, par L. G. Neumann, Professeur à l'Ecole Nationale Vétérinaire de Toulouse, small 8vo., paper covers. pp. x + 348, with 156 illustrations in the text, no adverts: price not stated.

Asselin et Houzeau, Place de l'Ecole de Médecine, Paris.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1349.

MAY 16, 1914.

Vol. XXVI.

THE COUNCIL ELECTION.

This year's Council election is important in one respect—it will introduce new blood to the Council to the extent of nearly ten per cent.

There are eight vacancies; and only five of the retiring members—Messrs. Abson, Banham, Mason, Shipley, and Sumner—are seeking re-election. All these are almost certain to retain their seats. Four new candidates—Messrs. J. W. Brittlebank, of Manchester; J. C. Coleman, of Swindon; P. J. Howard, of Ennis; and T. C. Toope, of Dover—are competing for the three vacant seats. All are new at the polls, but all are well-known men and thus the election is a very open one.

No test question is before the electors—we must be guided simply by our estimate of the personal fitness of the candidates for the general work of the Council. We want men who are able and willing to give up the necessary time, and who possess, not necessarily brilliance or showy qualities, but sound common sense and practical business capacity to bring to the work. All the nine candidates have been sufficiently before the profession to enable us to form a judgment as to how far they possess these attributes. A few minutes devoted to considering the individual endowments of each in turn will be time well spent.

APPOINTMENTS ABROAD.

No less than ten foreign appointments for veterinary surgeons have just been advertised—two by the Queensland Government, and the others by the Crown Agents for the Colonies. Without special knowledge of the countries it is impossible to say what the salaries offered really represent in English money. Probably they are something like the salaries of most whole-time veterinary appointments in England—rather more than the earnings of the average practitioner, but nothing like those of a few very successful ones. The most serious objections to these foreign posts are the isolation and frequently excessive work they entail, and the fact that some at least tend to unfit their holders for other work.

Still, we think they are well worth the attention of young graduates of good constitution, but those whose thoughts are turning towards them should not delay too long. At present there is no lack of such openings for suitable men. But in a very few years the new Melbourne College will be turning out graduates whose training ranks equal with ours; and for Australasia and Malaysia at any rate, they will be formidable rivals for Government posts.

PECULIAR CALVING CASE.

On April 24th, about 11.30 a.m., I was called to a calving case. The messenger said there was something strange coming, and that the cow was very sick for the last two hours.

On arrival I found the intestine protruding from the vulva, and on passing in my hand I found a large cone-shaped body in the womb, the surface of which was quite slippery and without hair. This body resisted all attempts at manipulation and after prolonged search for a limb or head I recommended slaughter, which was accordingly carried out. The resulting examination revealed a monstrosity.

The abdominal organs were developed and hanging loose—not enclosed. The skin from the abdominal region was reflected back over the quarters and formed a sac which, on being slit open, presented an extraordinary condition. From this reflected portion of skin there were hanging three legs developed from the carpus only downward. The head and neck seemed to be developed from the sacrum, the head lying beside the tail, and attached to this portion of the trunk there was also one fully developed fore leg. The hind legs were normal in shape and position and the anus and vulva *in situ*. The thorax was absent.

The case may be of interest to embryologists.

A. F. O'DEA, M.R.C.V.S.

New Garden, Tuam.

EXPERIMENTAL RACHITIS IN YOUNG ANIMALS BORN OF PARENTS DEPRIVED OF THEIR THYROID.

Henri Claude and J. Rouillard record (*C. R. Biologie*) the following experiments. They removed the thyroid glands from a male and a female adult rabbit, weighing about three kilogrammes (=approximately 6.6 lbs) and coupled the pair a few days later. Gestation, the birth of eight young rabbits, and lactation, which lasted forty days, took place in normal conditions. Four of the young rabbits died about the third week, with distension of the abdomen. One survived, and developed normally. The other three died in a cachectic condition after ten to twelve weeks. Their weight was about 50 per cent. less than that of control rabbits brought up in the same conditions.

The post-mortem examination of the three cachectic rabbits and the microscopical examination of their bones revealed unmistakable skeletal lesions of rachitis. In the pathogeny of rachitis, therefore, a certain amount of influence should be

accorded to hereditary or acquired thyroïdal insufficiency.—(*Annales de Méd. Vét.*)

THE USE OF LABARRAQUE'S FLUID IN SURGERY.

Frederikse and Gallandat Huet drew attention (*Tydschrift voor Vecartsenrykunde*) to the good results which may be obtained from Labarraque's fluid. They state the following formula for the preparation—hypochlorite of calcium 33 parts, carbonate of sodium 67 parts, water 1000 parts. After mixing, the liquid is allowed to stand for 24 hours, and then that portion which is very clear is decanted. Labarraque's liquid has been known for a long time, but its use is now almost totally abandoned. The authors have tried it twice with very happy results.

Their first case was a mare suffering from an abscess in the frog. Some warm baths caused the abscess to open, and the resultant cavity soon became covered with granulations; but a persistent fistula remained. Antiseptics, and also plugging with corrosive sublimate, were tried without avail; and the fistula was becoming worse. The foot was then immersed for half-an-hour daily in a bath containing 2 per cent. of Labarraque's liquid. Rapid improvement followed, and recovery was complete after five weeks.

The second case was one of poll-evil, and presented a fistula which commenced about 1 1/5th inch from the median line, and was directed towards the cervical ligament. Two counter-openings were made; and for some days these were kept patent by drainage tubes and syringed with hydrogen peroxide solution. The case was becoming worse; and the authors altered the injections to a 2 per cent. solution of Labarraque's liquid. This was injected four times daily. The suppuration soon diminished, and it became possible to remove the drainage tubes. The treatment was completed by the injection, for a few days more of a mixture of tincture of iodine, tincture of myrrh, and tincture of arnica, in order to stimulate reparative granulation.—(*Annales de Méd. Vét.*)

CONTAGIOUS AGALACTIA OF SHEEP AND GOATS.

H. Carré has published (*Annales de l'Institut Pasteur*) an article upon this condition and the results of a very complete clinical and experimental study of it which he has made.

The malady is a contagious one, and is propagated by milk. It is due to a filtering virus, which is eliminated by the milk. The disease, when inoculated experimentally, presents the same characters as the natural disease. It is easy to diagnose, and presents both general and local symptoms.

The general symptoms consist of fever, general enfeeblement, loss of appetite, and, in the acute form, rapid death. In the chronic form, these general symptoms are very slight and may even pass unperceived.

The local symptoms involve the udder, the eye, the joints, and sometimes even the skin. The udder, after showing violent inflammation, becomes atrophied and develops indurated centres of variable size. One or both quarters may be affected.

The articular localisations attack the carpus and tarsus by preference, and then the femoro-tibial, humero-radial, coxo-femoral, and metacarpal articulations, rendering all movement painful and impossible. The eye presents a simple opacity of the cornea, or parenchymatous keratitis, internal ophthalmia, and sometimes purulent complications.

Abscesses, due to common pyogenic organisms, are found in various regions, such as the parotid mediastinum, and muscles.

The animals lose condition considerably, and die in a state of complete cachexia.

This disease is prevalent in the departments of the South-east of France, where it occasions severe losses.

The result of Carré's independent study of it is summarised as follows:—

(1) For a space of some months, until it is completely atrophied, the agalactic udder may secrete a liquid which is equally virulent during the whole course of the disease. (This conclusion of Carré's is contrary to the opinions of other workers).

(2) For the disease to be contagious, it appears indispensable that the patients should bear open lesions. Lachrymal discharges from an affected eye, even without ulceration, are virulent.

(3) The virus of the disease is perfectly absorbed by the digestive passages, and this method of infection seems to be much the most important one in its propagation.

(4) It is possible to create an abundant source of pure virus by inducing an experimental pleural exudate.

(5) The serum of hyper-immunised animals possesses very distinct preventive properties.

(6) Sero-vaccination which has been accomplished in the laboratory, appears bound to render great prophylactic services against the disease.—(*La Semaine Vét.*)

THE TREATMENT OF TUMOURS IN DOMESTIC ANIMALS BY THE RÖENTGEN RAYS.

Dornis has published (*Zeitschr. f. Veterinark.*) the results of attempts he has made in the treatment of malignant tumours in horses and dogs by the Röntgen rays. He first describes five favourable cases. The first was a horse, age not stated, affected with spindle-celled sarcoma. One tumour, the size of a potato, was present upon the right upper eyelid, and a second one under the lower eyelid. The tumours were removed and the wounds cauterised, but the wounds very quickly became covered with local recurrences in the shape of wart-like growths. The Röntgen rays were then applied every three days, for fifteen or twenty minutes at a time. At each application the proliferating masses assumed a bright red colour under the influence of the rays, and became copiously covered with a serum-like fluid. After twenty applications there was a vigorous growth of epithelium from the edges of the wound. The treatment was discontinued, and a year and a quarter later no recurrence had taken place.

The second case was a black dog, fifteen years old. A melano-sarcoma, the size of a hen's egg,

was surgically removed from the inguinal glands. New sarcomatous masses appeared in the wound cavity, and these, after nineteen applications of the Röntgen rays, were replaced by healthy granulation tissue. No recurrence took place.

The third case was a dog, age not stated, with a round-celled sarcoma, the size of a walnut, in the inguinal glands, and numerous small ones, ranging from millet-seed to pea size, in the skin of the lower part of the thorax and abdomen. Under the Röntgen rays the small tumours gradually decreased, without the formation of cicatricial tissue. The larger one lessened to the size of a hazel nut, and was then extirpated. No recurrence followed.

The fourth case was a dog, age not stated, from whose inguinal glands a round celled sarcoma had been removed a year before. This was followed by the appearance of another round-celled sarcoma under the skin in the fold of the knee, which attained the size of a walnut. It was then extirpated, but new tumour tissue appeared in the wound. After the Röntgen rays had been applied twenty-four times the surface of the wound was healthy, and no recurrence took place.

The fifth case was a dog, age not stated, with a superficially situated squamous epithelioma round the anus, which caused difficulty in defecation. After nineteen applications of the rays, the owner was satisfied with the result that had been attained. (What the result really was is not stated.—Transl.)

Dornis then proceeds to the cases which were unsatisfactory. He repeatedly failed to get good results in cases of sarcoma of the maxillary sinuses in horses. Four cases of mammary carcinoma in bitches were all failures. In one cancrroid growth of the nasal cavity in a dog the rays seemed to have a direct irritant effect. One fibro-sarcoma in a horse, and another in a dog, were also failures.

These results confirm the general experience that the Röntgen rays exercise a pronounced destructive effect upon tumours which are rich in cells, well provided with blood vessels, and inclined to recurrence (those, therefore, of a more embryonal character), and that more organised tumours, carcinomata (especially fibro-carcinomata), and many mixed sarcomata, are more resistant to the rays. A previous operation, such as was performed in most of the successful cases described above, greatly facilitates treatment by Röntgen rays.—*Berliner Tier. Woch.*

EQUINE PIROPLASMOSIS.

M. Carpano discusses this subject. (*Zentralbl. f. Bakt. Parasitenk., u. Infektionskr.*) Equine piroplasmosis can be caused by two distinct types of parasites. One called *Nuttalia equi*, is of fairly small dimensions and is characterised by a peculiar reproduction into four elements arranged cross-wise. The other is called *Babesia caballi*, is of large size, and propagates in the circulating blood by means of a true gemmation process. The two types are encountered in many regions of the Old World in particular, and *Nuttalia equi* is much more widely spread than *Babesia caballi*.

Both these types occur in Italy, but *Nuttalia equi* is found the most frequently, and has the greatest

area of distribution. In the colony of Erythræa, according to the author, only *Babesia caballi* has hitherto been observed. Many of the horses native to Erythræa possess a certain degree of immunity, which stands midway between natural and acquired immunity. Imported horses, on the other hand, are very susceptible.

Clinically and anatomically, the two diseases caused by these two parasites show no very pronounced distinctive characteristics. Some peculiarities, which are attributable to conditions of time and place, are possessed by both types. The natural infection apparently takes place through agency of *Rhipicephalus bursa* and *Boophilus annulatus*. The last-named is the transmitter of *Babesia caballi*.

The disease may be transmitted artificially by means of infected blood. Cases in which attempts at transmission have had negative results are attributable to immunity of the experimental animals. Horses which have once suffered from one of these piroplasmoses and have recovered remain immune against the same type of piroplasm for a varying period. On the other hand, horses immunised against *Nuttalia equi* can be infected by *Babesia caballi*, and vice versa.—*Berliner Tier. Woch.*

W. R. C.

NORTH WALES

VETERINARY MEDICAL SOCIETY.

[NATIONAL V.M.A. NORTHERN BRANCH].

CLINICAL POST-PHARYNGEAL SURGERY.*

By R. JONES, M.R.C.V.S.

In response to an appeal from our Secretary I propose giving a brief account of a few cases of diseased condition of the region of the throat which called for surgical treatment, so as to give immediate relief and to effect a cure.

Case I. A three-year-old bullock, which had been suffering from actinomycosis of the back of the tongue and throat early in the winter. The affected parts were painted with Tinct. iod., and Pot. iod. was given internally. I ceased to attend, and he was reported to have apparently recovered. In the spring he was turned out with the rest of the bunch, and in the course of some weeks the bailiff reported that the same bullock was exceedingly bad, constantly coughing and making a distressing noise during respiration, practically unable to graze, and that he would be taking him up from grass past my premises at a certain hour. When passing I examined his throat and could see a tumour at the back of the pharynx, hanging in front of the larynx; the symptoms were as described by the bailiff, and the bullock fallen off in condition.

I arranged to go the following morning to destroy him if unable to remove the tumour with a view of ultimate recovery.

In the struggle and exertion when being thrown he became exhausted before I completed the tying, and had I not hurriedly opened the trachea he would have suffocated. He immediately recovered when the breathing was relieved. A tracheotomy tube was inserted, and I placed a mouth gag and examined the throat; there was a mushroom-shaped tumour attached by a

* Read at the March meeting of the Society.

pedicle about 1½ inches to the posterior surface of the pharynx. I tried to tear through the pedicle with my fingers, but failed. Without much difficulty I got the écraseur chain round the pedicle close to the mucous surface and removed the growth. I did not see the case afterwards, but my daughter called daily to dress the tracheotomy wound, which was soiled by a little food escaping. Nothing further was done to the throat, and the animal was fed on mashes and a little grass for some days. He made a complete recovery and was sold with the rest.

Case II. I was asked to see an in-calf heifer which was making a noise in breathing, and proceeded to examine the throat. It proved an extremely difficult matter to make anything like a thorough examination of her, and I decided to let her calve before doing anything further, as she was able to graze fairly well.

I was phoned to, and told that she had calved some days, and the condition of the throat was such that the breathing was very distressing and the heifer was unable to take any nourishment. From what I could see and feel in the throat when making my first examination I suspected an abscess on the superior surface of the pharynx. I had her taken out of the building to a field close by, never suspecting that the difficulty in breathing was such that there would be any danger of suffocation in the struggle of throwing. It was proved that I was wrong in my conjecture, for I had to open the windpipe hurried in this case also, and insert a tube.

When the gag was placed in her mouth I made a manual examination of the throat and found the superior surface of the pharynx much swollen, thereby interfering with the breathing and deglutition. With some force I pressed my finger through and made a forward tear in the membrane. This was followed by a gush of pus, and I immediately placed my hand on the tube in order to assist her in coughing any matter that might have been escaping down the trachea. No further treatment was applied to the throat, but the tracheotomy wound was dressed daily.

The moral from these two cases is—never to operate on the throat when there is difficulty in breathing without previously performing tracheotomy.

Case III. This case was on the same farm as No. II. A barren cow which had what appeared to be a tumour, deep in the neck in the jugular furrow a few inches from the larynx, between the trachea and the cervical vertebræ. Such was the pressure exerted by the swelling that the trachea was pressed downwards, giving to the lower aspect of the neck a distinct curve. When I first saw the cow she was able to take nourishment fairly well, and I gave the owner a bottle of liniment to rub on with a "wait and see" idea.

In the course of a few days I had a message saying the cow was unable to swallow anything, but that the breathing was not interfered with. I pointed out to the owner that there was a certain amount of danger in the operation, and he said "It is a case of operating or dying."

The cow was thrown on her right side, and whilst I was washing the seat of operation the chloroform mask was put on. When she was got under the anæsthetic I made an incision about five inches long, and dissected carefully down on what proved to be an abscess. I pressed the jugular vein upwards, and the long muscle of the neck (sterno-maxillaris) downwards. When I had dissected on to the swelling I ordered one of the men to put his hand on the opposite side of the neck and press the enlargement towards me. I inserted a trocar and canula, and when the former was withdrawn thick pus oozed out. I used a director to guide the scalpel and made a good opening in the abscess and washed the cavity out. I separated the muscle and tissues from the trachea, and made an incision through

the skin on the lower aspect of the neck, opposite the operating wound, so as to ensure good drainage.

The abscess cavity and the drainage wound were syringed every day. The communication between the two wounds was kept patent until the abscess cavity had completely healed.

The cow eventually recovered and gave no further trouble. The amount of blood lost during the operation was quite insignificant.

ROYAL COUNTIES VETERINARY MEDICAL ASSOCIATION.

NATIONAL V.M.A.—SOUTHERN BRANCH.

An ordinary general meeting was held at the Crown Hotel, Faringdon, on Friday, April 24. The chair was taken by the President, Mr. J. C. Coleman, Swindon; and there were also present: Messrs. G. P. Male, Reading, Hon. Sec. and Treas.; J. H. Parker, Faringdon; J. Willet, London; S. H. Slocock, Hounslow; W. T. D. Broad, Marlborough; and J. Baxter, Lechlade, members; and Messrs. Hugh A. McCormack, Secretary of the Central Association, London; W. H. Brown, *Veterinary Record*, London; E. E. Seldon and E. C. Bowes, Tetbury; T. C. Toope, Dover; and J. H. Parker, jr., Faringdon.

Apologies for inability to attend were received from Prof. McCall, Prof. Brayley Reynolds, Capt. O'Rorke, and Messrs. Hurndall, Jagger, Shipley, P. J. Simpson, Stanley, H. G. Lepper, T. W. Lepper, Cundell, Villar, Hazelton, McKerlie, Tennant, King, and Hanks.

THE LATE MR. WM. HUNTING.

The HON. SEC. read a letter from Mr. Carter, President of the Royal College, asking this Association to express assent to the petition which it is proposed to present to the Treasury in favour of a pension to the children of the late Mr. William Hunting, and enclosing a form of the petition. Mr. Male added that the petitions were now being called in.

On the motion of Mr. Slocock, seconded by Mr. Willett, the President was requested and empowered to sign the petition on behalf of the members.

NOMINATIONS TO COUNCIL.

The HON. SEC. submitted a letter from the Joint Veterinary Association (Ireland) asking him to bring under the notice of the members of this Association the fact that Mr. P. J. Howard, of Ennis, had been nominated; and asking the members of this Association to vote for Mr. Howard if they could see their way to support him.

Most of them, Mr. Male said, knew that Mr. Coleman was desirous of going on the Council. They might make a compact, perhaps, with other Associations to support each other's candidates. (Hear, hear.)

Mr. TOOPE said that, with Mr. Coleman, he was also a candidate for the Council on behalf of the South Eastern Counties, and he had asked for the support of the Southern Counties and the Eastern Counties, and he now asked for that of the Royal Counties. Yorkshire and Lancashire had twelve men, and the Central thirteen on the Council, and he thought it time there was some combination in the South and East.

Mr. SLOCOCK observed that the Central had always, quite rightly, kept clear of veterinary politics.

Mr. WILLETT proposed that an affirmative reply be sent to the letter, provided that the joint Irish Associations would use their endeavour to support the candidates of this Association.

Mr. MALE seconded the motion, and it was carried unanimously.

New Members. Mr. W. G. GREEN, M.R.C.V.S., of Boscombe Park, Bournemouth, nominated at the last meeting by the President, seconded by Mr. Broad, was unanimously elected a member of this Association.

Mr. SELDON, of Tetbury, was proposed by the President, and seconded by Mr. Male, for election at the next meeting.

ROYAL SANITARY INSTITUTE CONGRESS.

Mr. WILLETT moved, and Mr. Slocock seconded, and it was unanimously agreed, that the President be asked to represent the Association at this Congress, to be held at Blackpool.

Next Meeting. After some discussion it was resolved that the next meeting of the Association be held in London on the 7th August, during the meetings of the International Congress.

TITLE OF THE ASSOCIATION.

Mr. SLOCOCK, in accordance with notice given at the last meeting, proposed that the title of the Association be altered to "The Royal Counties Veterinary Association" by the omission of the word "Medical."

Mr. MALE seconded.

Mr. TOOPE and Mr. Broad having spoken, a vote was taken, when only five voted, two members supporting Mr. Slocock and three voting against. The resolution was accordingly declared lost.

DEMONSTRATION ON CASTING.

The party then adjourned to the stable yard of the Hotel where Mr. J. H. Parker, who some time ago contributed an illustrated article to *The Record* on the subject, gave, with the assistance of his son, a very interesting and instructive demonstration of hobbling and casting for castration by the method he favours. The demonstration was very successfully carried out on a fine Shire colt.

PROPOSED VETERINARY INSPECTORS' BRANCH.

Mr. TOOPE spoke upon the proposed formation of a Veterinary Inspectors' Branch of the R.C.M.A. He reminded members that he attended the last meeting of the Association for the purpose of interesting them in a suggestion which he was making throughout the South and East of England—the formation of a Veterinary Inspectors' section by each Society. Briefly the object was union, and not separation, which union, he believed, would be promoted by Inspectors' meetings being held in connection with Societies' meetings. That would bring about a better feeling, there would be less jealousy and less fear of what he might almost term opposition to the veterinary inspectors. That union, which appeared to be absolutely necessary, would be best in connection with local societies, and affiliated to the National Veterinary Medical Association. He was glad to know there was now practical union, but what he wanted the Royal Counties to do was to officially recognise the movement, and form a distinct section of the society, and he thought good would come of that. He proposed that from each of the counties from which they drew their members the veterinary inspectors should be represented by two or three on the Council of the Society, and that matters which concerned them alone should be discussed at the meeting of the section an hour or so previous to the general meeting of the Society. By doing that they would add to their numbers and retain them, because any Society doing that possessed the interest of the veterinary inspector who, if not already a member, would very shortly become one.

Mr. MALE asked how he proposed that the Inspectors' Section should be financed?

Mr. TOOPE did not think that anything of that kind was needed. The Secretary of the Society, who was a

veterinary inspector as well, would do the necessary secretarial work for nothing, and if a special meeting was necessary for inspectors only—which had not yet occurred—there might be a special whip round among them. The expense of the literature was met by the National.

The PRESIDENT: Do you not think that it is rather clashing with the National veterinary inspectors?

Mr. TOOPE did not think so at all. The idea seemed pretty general that the National veterinary inspectors were practically *non est*. Nothing appeared to have been done by them.

The HON. SEC. read a letter from Mr. P. J. Simpson on the point, in which the gentleman wrote—"Should the Royal Counties Society have a branch for inspectors, or should the inspectors resident in the Royal Counties area form a sub-branch of the National Association of Veterinary Inspectors? It seems to me that it is a pity to have too many sub-divisions, as surely the inspectors of each county can discuss their own affairs, and if unsatisfactory refer the matter to the National Society of Veterinary Inspectors, who could take the matter up on their behalf in an even stronger way than a branch of the Royal Counties Veterinary Association. The formation of these branches in existing veterinary societies tends to weaken rather than to strengthen the National Inspectors' Society, and I do think we ought to try to hold that together. I think you will agree with me that what was done in Berkshire in a quiet way could be done in other counties, and if that is refused, refer the matter to the National Society of Inspectors."

The PRESIDENT said he held with Mr. Simpson that the inspectors in the different counties should "put their heads together" and then put their grievances before the local authorities. He was afraid that as a section of the Royal Counties they would be powerless.

Mr. TOOPE said that hit the point he wanted to hit. Why could not inspectors, having considered improvements in various matters, delegate two of their members as representative of that Society, and in that way pass the thing on to the National Society?

The HON. SEC. said he had sent out about 50 notices to veterinary inspectors, and also a special request to members to attend that meeting. The poor attendance that day was rather disappointing, and did not seem to show much enthusiasm for an Inspectors' branch.

Mr. WILLETT moved that the matter be postponed until the general meeting at Reading, when there would be a more representative gathering.

Mr. MALE, who seconded, thought the general body of members should express an opinion before action was taken.

Mr. TOOPE said he quite agreed that the meeting should be representative. The motion was agreed to.

THE WORKING OF THE TUBERCULOSIS ORDER.

Mr. SLOCOCK opened a discussion on this subject. It would suffice his purpose, he said, if he simply set the ball rolling, as several of those present had had considerable experience in the working of the Order.

His own impression was that the Order—which he regarded as a preliminary "feeler"—was from that point of view very discreet, very sufficient, and very workable, although points in it were very puzzling. The fact of its being on quite new lines had made it difficult for them to fall in with it. They had the sanction of the Treasury that out of the moneys voted by Parliament half the compensation paid by the local authorities should be refunded for five years. The contention, he believed, was that the call on the local authorities would be very heavy for those preliminary

years, and either that it would not be so heavy after the end of the five years, so that they could stand the whole expense themselves, or that another Order would be substituted within that time—and possibly a more comprehensive Order. The present Order was dealing with tuberculosis in a very modified form—tuberculosis of the udder, tuberculous milk, and tuberculosis with emaciation. All cases of suspicious udders had to be inspected by the veterinary inspector, and all cases of emaciation in which tuberculosis was suspected. That gave the veterinary inspector the right of entry and to examine the rest of the animals on the premises, so that he could go through the whole herd. He had not to find out which of the animals were tuberculous, but which had tuberculosis within the meaning of the Order—which, of course, was very limited. The point was that it gave the veterinary inspector authority to go on those premises, and in that way it did great good from the inspector's point of view. Any milking cow which was a "waster," with a tuberculous udder, could be weeded out. It had become a trade with certain men to buy up those old cows, and they had been induced to traffic in them by owners who were anxious to get rid of them. It seemed essential nowadays, with that chance of inspection of herds, that the owner should not have on his premises any suspicious animals. He invited the dealer to buy them, and the dealer bought them at his own price and carted them away to different centres, one of those centres being the London Market. There an extraordinary number of emaciated animals had been killed, and that accounted for the small numbers appearing on the summaries given by the local authorities of animals condemned. They were inspected in the London Market, where emaciated and tuberculous animals were destroyed. The dealer gave, say, 30s. or £2, took them to London, and stood his chance, and there was always the "salvage." Supposing eight out of twenty were condemned, the dealer stood to win. He (Mr. Slocock) thought the thing had been winked at, and that he could substantiate the statement. [The President: I endorse that.]

In Article 10 of the Order, which dealt with the detention or isolation of suspected animals, it was provided that an animal might at any time be slaughtered by the owner or person in charge.

A point which he took as flattering to the veterinary surgeon was that the intimation might be given direct to the veterinary inspector instead of to the police, but that, of course, was controlled by the way in which the Order was administered in the different counties. There was throughout the Order a lenient idea on the part of the Board of Agriculture that no excessive notoriety should be given. The trade of a man known to have been supplying tuberculous milk would be gone, and there would be no attempt on his part to assist the Board in a quiet way in the eradication of affected animals, whereas it was hoped that in a lenient way the matter might be got quietly settled within the meaning of the Order; and the inspector might persuade the owner to have all his animals tested and to segregate all which were reactors, and so, if possible, eliminate the affected animals from his herd. Those animals in which the disease was not far advanced would feed out as very good meat—of a sort. (Laughter.)

The valuation for compensation was made on the easiest terms possible. Before an animal was slaughtered they had to get provisional consent between the owner and the local authority as to valuation, and no arbitrary method was suggested. The important point from the veterinary surgeon's point of view was that of the definitions. In Article 8, par. 4, the Board had laid down a very good definition of advanced tuberculosis; but a difficulty had arisen there. They could get tuberculosis in both lungs—three nodules in one and two in the other. He had not seen his way clear

to declare that to be advanced tuberculosis. Where tuberculous lesions were present on the *pleura* and the *peritoneum* they might take it to be an advanced case.

Under Art. 8, where a carcass was emaciated and tuberculous lesions were present, they had many difficulties. He thought all the inspectors in Middlesex had fallen into the trap—he knew that he had. (Hear, hear). He had had cases of emaciation in which the animal had definitely reacted to tuberculin, and on a post-mortem he had found lesions, but they had been so very limited that he could not see his way to certify definite tuberculosis. Now he was more agreeable to fall in with the view of the Board—that it was a case of advanced tuberculosis "within the meaning of the Order," because he took it such an animal was unfit for human food, and absolutely valueless on the market for any other purpose. (Hear, hear).

As to the precautions to be adopted with respect to milk, the Order allowed milk to be used provided it was boiled. In his opinion that permission should never be given. (Hear, hear). Tuberculous milk was a source of danger; and if it was so thoroughly boiled as to render it innocuous it could not be an advantage in any way. He thought such milk should be destroyed.

The case of suspected animals in markets and fairs was in his opinion very wisely and reasonably provided for, although he acknowledged that there would be difficulty when they came to the London market.

A rather unfortunate point as to veterinary inspectors was the amount of writing entailed. (Hear, hear). The reports required were something enormous—in fact one never knew when he had finished reporting on an individual case. The only compensating feature he could see was that they got the compensation which a solicitor got in a "good" case where there was a squabble—increased remuneration. (Laughter). If the fees were proportionate to the work they would get repaid, but on that point it seemed to him that the working of the Order in the case of an animal worth, perhaps, 30s., raised the question of what the veterinary inspector was to take out of it to be repaid for the work he did. The local authority had to consider that point presently; but he was afraid pressure would be brought on the Board of Agriculture, in the formation of any new Order, and that it might not improve matters for them. His advice, if he were asked, would be to work the Order as long as it lasted, for he did not think they would ever get a better. They would get a more comprehensive one, but he doubted if so much work would be thrown in their own hands. The question of compensation to the owner was very complicated, and it wanted a man who was pretty well an accountant to work it out; but thank goodness that was not deputed to the veterinary inspector.

He had always made it a point, in justice to himself, to the owner, and to the veterinary surgeon employed for the post-mortem, to invite the owner to have his own veterinary surgeon present at the post-mortem.

Mr. BROAD said it seemed to him silly to have two valuations. Only one valuation was made in the market in the old days. Personally he did not know, under the present system, how to value an affected cow. The owner, he thought, should be allowed to send some animals to the knackers, and let the post-mortem be made at the owner's own expense.

Mr. SELDON said the crux of the whole thing, as far as his division was concerned, lay in the valuation. He thought one valuation should be made, and that of the value of the animal as it stood on the day. Where one valuation might be 30/-, and the other £16, the owner got the idea that he ought to receive the latter sum. Unfortunately the tuberculin test was not infallible. It put a great onus on an inspector who condemned an

animal that reacted if on a post-mortem they could not find a lesion to show the owner. The difficulty to him was that in every county the inspectors were working under different conditions. If all inspectors were put under one heading, and one scale of fees, they could combine, as Mr. Toope wished. Where local authorities paid different fees the difficulty was to get a working basis. He greatly feared that the whole of that business would be centralised in the Board of Agriculture, whole-time inspectors being employed, and if that were so the local veterinary surgeon would not get a chance. (Hear, hear.)

Mr. MALE. Personally, he thought there were two things in the working of the Order as to which there still appeared a considerable amount of doubt—one valuation, and the other the scope of the Order. As to the former, in many cases that had been brought to his notice, the amount obtained after slaughter, *i.e.*, the salvage, had been more than the owner had had, and naturally the owner kicked against that. He himself, instead of working from the top to the bottom, worked from the bottom to the top. If an owner only got quarter value for a diseased animal, they should work up from that 30/- so that in the event of the animal being found on post-mortem not badly affected, he would get at least three times 30/-. Where a carcass had made £6, £7, or £8 it was obviously unfair, and brought disrepute on the Order as well as on the valuer if the owner only received 30/-. He thought the Order justified them in treating values in a more liberal manner. (Hear, hear.) To pay compensation £60,000 was set aside every year; and for the first nine months only £4,000 to £5,000 had been utilised, so that people who had those unfortunate cows might surely be treated a little more liberally. He quite agreed with Mr. Seldon that they should press for the one valuation; for neither the local authorities, the police, or the valuers themselves understood the two valuations. That one valuation should, in his opinion, be the *market value* of the animal as it stood, and he would let the owner have either three-fourths or one-fourth of this value; and £1 besides the full value if the animal proved to be not affected. Most of them, he thought, had made mistakes as to what cows were really included under the Order. They were only able to deal with cows that were emaciated or were giving tubercle bacilli in the milk, or had tuberculous udders. If they attempted to deal—as owners often wished them to deal—with animals that were not emaciated it complicated matters very much. In the case of a cow suspected of giving tubercle bacilli in the milk it was sometimes necessary to inject guinea-pigs, which meant that the cow and the milk had to be “hung up” for a month until the test was completed. In such a case he thought the owner should be paid fully for the milk that had to be destroyed during that period. (Hear, hear.)

As to compulsory inspection of markets, there were a lot of markets that were not inspected, and to make the Order complete he thought veterinary surgeons should press the Board to compel all local authorities to have their markets inspected. (Hear, hear.) The heavy cost of the administration of the Order had been borne by the local authorities, and did not come out of the Exchequer at all. Farmers naturally kicked against bearing the enormous expense that involved, and getting no help from the Treasury, and they had petitioned the Board of Agriculture to put three-fourths on the Treasury, and in that they should receive every support possible. When the question of fees was first discussed he thought that the fees should not be excessive, although they should be adequate. Mr. Slocock suggested that the authorities might consider the fees too high, but he thought the fees they charged at present were the extreme minimum. If veterinary surgeons stuck together he thought every county would adopt

the National scale, as most counties had done. (Hear, hear.)

Mr. WILLETT wished to compliment Mr. Slocock on his comprehensive and admirable opening of the debate. (Hear, hear.)

Mr. PARKER said he, as an inspector, had never condemned a fat animal brought to market if evidently in good general health.

Mr. TOOPE said his greatest difficulty had been with regard to valuation in cases of tuberculous udder. He was pleased to hear Mr. Slocock touch upon the question of miliary tuberculosis, which he had not the slightest doubt was a most dangerous form, as in all such cases infection of the blood stream had occurred; all such cases he should certainly condemn. (Hear, hear.)

The PRESIDENT said he could not see where the great difficulty came in over valuation. It was very clearly laid down in the Order, but they must not confine themselves to the Order only. Under Article 6, the first valuation (health) was simply for the purpose of giving the authority deciding compensation some idea of the animal they were dealing with; the second was simply whether the beast was tuberculous, and if it had a tuberculous udder in so far they would delete from the value of the cow as a milking animal. If on post-mortem nothing was found wrong but the udder, the cow would be fit for human food, and that had to be considered in the valuation as well as the disposal of the milk. The difficulty arose if they did not look at it in that light. He did not think the valuer should be expected to assume to what extent the animal was affected. When very emaciated, cows had only one value practically—knackers' price. Mr. Coleman then dealt at length with the conduct of the police in his district in the matter, and read correspondence. Proceeding, he said he quite endorsed what Mr. Slocock had said as to the number of tuberculous animals going into London. He took a public health point of view of that and felt that if in the remedying of one evil they caused another it was a very serious thing. (Hear, hear.) The longer he lived the more difficulty he saw in separating the public health department of their profession from the Board of Agriculture. (Hear, hear.) He had been given to understand by some people who knew that the present Order was practically a start, and that it was hoped in time to considerably extend it.

Mr. PARKER discussed the peculiarities of the tuberculin test.

Mr. MALE related some interesting experiences in connection with some large herds he had tested.

THE INTERIM REPORT ON SWINE FEVER.

The SECRETARY had hoped to give a review of the second Interim Report of the Departmental Committee on Swine Fever, but time did not permit.

SPECIMENS OF INTEREST.

Mr. PARKER showed a number of new obstetric instruments.

A large number of morbid specimens were exhibited, including:

By Mr. Broad: Retropharyngeal glands from a cow and very fine specimens of double odontoma he had removed from a horse.

By the President: A very large piece of bone—which had caused death—taken from near the cardiac orifice of stomach of bull-dog; also some specimens of *strongylus tetracanthus*.

The PRESIDENT accorded the thanks of the meeting to Mr. Toope, Mr. Slocock, and Mr. Parker for his demonstration, and the gentlemen who had brought specimens.

Mr. PARKER replied.

At the close of the meeting tea was provided at the kind invitation of Mr. J. H. Parker.

G. P. MALE, Hon. Sec. & Treas.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.		Out-breaks	Slaugh-tered.
	(a)		(a)		(b)		(b)		(b)	(a)	
Gr. BRITAIN.											
Week ended May 9	19	20			1	1	39	60	1	108	1246
Corresponding week in											
1913 ...	9	13			3	4	55	109	2	78	1797
1912 ...	18	19			5	5	33	85	3	69	1038
1911 ...	15	43			2	4			1	55	809
Total for 19 weeks, 1914	356	389	11	74	34	79	1183	2143	140	1380	14065
Corresponding period in											
1913 ...	251	273			64	208	1350	2802	114	826	11895
1912 ...	424	475			65	141	1848	4152	159	1262	16055
1911 ...	375	464	1	18	78	225			294	863	9401

(a) Confirmed. (b) Reported by Local Authorities.

† Counties affected, animals attacked: London 1.

Board of Agriculture and Fisheries, May 12, 1914

IRELAND.	Week ended May 9							Outbreaks	4	6	18
		1	1	...	...	...	...	1			
Corresponding Week in											
1913	2	13	3	70
1912	3	4	8	114
1911	1	1	...	...	...	...	1	1	...	5
Total for 19 weeks, 1914	...	1	1	71	956	...	...	40	322	101	439
Corresponding period in											
1913	82	267	61	378
1912	1	1	...	...	...	...	37	247	98	928
1911	5	5	...	...	1	2	38	228	47	812

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, May 11, 1914

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

THE YORKSHIRE
VETERINARY MEDICAL SOCIETY.
[NATIONAL V.M.A.—NORTHERN BRANCH].

A meeting of the Society was held at the Hotel Metropole, Leeds, on Friday, the 24th April, at 4 p.m., when the Chair was occupied by the President, Mr. J. Abson, of Sheffield, and the following members were present: Messrs. S. E. Sampson, Sheffield; M. Robinson, Barnsley; A. Ellison, Harrogate; J. A. Dixon, S. Wharam, H. G. Bowes, A. W. Mason, Geo. Barber, Leeds; Thos. Pratt, Ripon; Hy. Sumner, Liverpool; S. B. Vinc, Settle; F. W. Pawlett, York; H. W. Holland, Keighley; P. R. Thompson, Halifax; J. S. Woodrow, Swinfleet; J. A. Hodgman, Barnsley; Geo. Whitehead, Batley; C. Pitts, Bradford; J. Clarkson, Garforth, hon. sec.; and A. McCarmick, Leeds, hon. treas. Visitor: Mr. Jas. Douglas, Ripon, Pharmacist.

Apologies for absence were received from Prof. Bradley, Messrs. Lloyd, Bowman, Lazenby, Weston, Pollard, Crawford, and Somers.

The minutes of the last meeting were taken as read.

The SECRETARY read correspondence from Mr. Shipley, of Great Yarmouth, asking for financial support towards the Victoria Veterinary Benevolent Fund, which was established for the purpose of affording help to the necessitous widows and children, particularly of young veterinary surgeons who had died before being able to make proper provision for their dependents.

In reference to the resignations which had been received from three members of the Society, the Secretary stated he had written the three gentlemen in question, as empowered at the last meeting, asking them to

reconsider their decision, but up to the present had received no reply. He asked permission to write them once more and make another attempt to get them to retain their membership. This was agreed to.

MOTION BY MR. S. WHARAM.

MR. S. WHARAM moved the following motion which he had given notice of at the previous meeting:—"That the word 'medical' be deleted from the title of the Society." He remarked that it was probable the dictionaries at the time when the word "medical" was inserted were not the same as at the present date, otherwise he could not understand how the word became inserted in the title. The word "veterinary" to-day meant the art of healing the diseases of domestic animals, whilst the word "medical" simply meant the art of healing. The two words together savoured somewhat of tautology, and were simply a duplication. However, in the wisdom of the Society it had been decided about 12 years ago, apparently he supposed for simplicity's sake, that the title of the Society should be the "Yorkshire Veterinary Society." Shortly afterwards the word "medical" was reinserted, but there was reason for that change. It was imagined that as registered medical practitioners they might thereby obtain exemption from acting on juries and rebates in the motor taxes and the duty on petrol. They were all aware that their desires in that direction had not been fulfilled, and never would be. None of them, he thought, wished to ride on the backs of the medical profession and receive concessions in that way; if they were to receive any concessions at all they wished them to be granted to them as veterinary surgeons and in no

other way. That was one of the reasons why he suggested they should call themselves the "Yorkshire Veterinary Society." Such a title would signify that they were a society of veterinarians quite unconnected with the medical profession, though at the same time it did not distinguish between veterinary medicine and veterinary surgery, as he considered those two distinct branches of their own profession. In the interests of the Society and of the profession he thought it would be a wise thing to strike out the word "medical" from the title.

The CHAIRMAN seconded the motion. In his opinion they could quite well do without the word "medical," which seemed to him somewhat to trespass upon the domains of the medical man, though he did not know whether the medical profession viewed it in that light at all. He thought they were quite capable of standing on their own bottom. The original title of the Society had been the "Yorkshire Veterinary Society," and it was altered because it was thought by doing so they might obtain the concessions suggested by Mr. Wharam, but as the change had not brought about the results anticipated, he thought without any qualms of conscience they could now dispense with the term "medical."

The SECRETARY announced that he had received a telegram from Mr. Lazenby who was not able to be present, stating that he regretted his absence as he would have voted against any change in the name of the Society.

Also another communication from Mr. Pollard regretting he could not be present at the meeting as he had hoped to assist in defeating Mr. Wharam's motion. "The founders of the Society," he thought, had good reason for including the word "medical." They were getting into closer touch with the medical profession every year, and he saw nothing to their disadvantage in including the term in the title, especially as, under the name of medical practitioners, they were endeavouring to obtain the same privileges as were accorded to their sister profession, namely, the rebate on the petrol tax and exemption from service on juries. He could not see any possible gain in such a retrogressive step."

Mr. BOWES rose to a point of order, and asked whether a motion of that kind for the alteration of the title of the Society should not be discussed at the annual meeting, and three months notice be given before such annual meeting.

Mr. McCARMICK said the same question had been brought up the last time the rules were altered, and it was stated it had been a mistake.

The SECRETARY said the history of the whole matter was that when the rules were revised it was suggested by the Committee of revision that the word "medical" should be dropped. The rules were examined by the members and were passed practically as a whole. Later on, apparently, some of the members had noticed that the word "medical" had been dropped, and on the subject being discussed a resolution was carried that the name of the Society should again be the "Yorkshire Veterinary Medical Society." He would like to point out at the same time that the title of the Society did not comprise one of the rules.

The CHAIRMAN said he would rule that it was not a rule and that the notice suggested by Mr. Bowes was not required.

Mr. BOWES said that that being so he would certainly oppose Mr. Wharam's motion. They were practitioners of veterinary medicine and veterinary surgery, and though to give the Society the full title of the "Veterinary Medical and Surgical Society," would be unnecessarily wordy, yet he did not see why the word "medical" should be dropped. Other societies of a similar kind were called "Veterinary Medical Societies" and he thought it was a more correct designation to retain the word "medical." Veterinary medicine was a branch of

medicine, and they were not in any way trying to usurp any medical title in using the word. They could claim to be one of the branches of the great profession of medicine, and as such they might ultimately enjoy some of the advantages of the medical profession.

Mr. SUMNER supported Mr. Bowes. He was present at the meeting when the word "medical" was adopted, he said, and while he recognised that it was possibly adopted at the time for selfish reasons he thought they were entitled to it. He was conscious of a certain feeling animating the rank and file of the profession which was antagonistic to the medical man, as it was felt that in the matter of public offices and administrative control the medical man was "top dog." He himself, however, did not share those feelings, because in the matter of public health the veterinary man represented the type of animals that the public authorities had to deal with, and the diseases of those animals which they were endeavouring to mitigate.

Mr. BOWES again rose to ask whether the matter was strictly in order, because although the title of the Society might not be embodied in the rules it was included in the preamble to the rules.

The CHAIRMAN said it would be much better to dispose of the matter at once. He himself had seconded the motion, but he had done so more with the idea of bringing about a discussion and settling the subject once for all.

The motion was thereupon put to the meeting and declared lost.

The CHAIRMAN: We will take it as a substantive motion if you like, Mr. Bowes.

Mr. BOWES: I am satisfied.

In regard to the Hunting Memorial Fund, the Secretary stated he had received a letter from Mr. Carter, the President of the Royal College of Veterinary Surgeons, enclosing two forms of petition to the First Lord of the Treasury that pensions might be granted to the children of the late William Hunting, and asking that the matter might be placed before the meeting so that a resolution might be passed authorising the Chairman and officers to sign and return the petition. The Secretary pointed out that the matter had been considered at the Council meeting, and the Council recommended that the President and officers of the Society should sign the petition for presentation to the Prime Minister. This was agreed to.

The SECRETARY also stated the Council had considered the question of making a subscription towards the funds required in connection with the International Congress and in addition had recommended that the President be appointed as the delegate of the Society.

Mr. A. W. MASON proposed this recommendation be confirmed, and this was carried.

SOME CLINICAL EXPERIENCES.

Address by H. SUMNER, M.R.C.V.S., Liverpool.

Case 1. A thoroughbred mare which was served in the early months of the year and, becoming pregnant, was sent to the part of the world where he lived. During the back end she slipped twins and held her placenta; this was removed, and there was no difficulty with the womb. She returned to Newmarket for stud purposes again and was served rather sooner than he considered advisable, as he had thought it would be well to give her several months rest. The mare afterwards was sent to Liverpool again, and up to November looked as well as any mare in the stud. About November he was called in to see the mare, as it was stated she had been doing badly. He thought she might have become somewhat dirty inside and ordered her some sloppy food, but he did not think it relieved her. The mare stood with her behind against a wall for shelter, her coat was erect, she looked wretched, miserable and

dejected. The pulse, however, was normal, and she had no temperature. Inspection of the excreta was made and it was found entirely satisfactory, but on looking at the buccal membrane and mouth he found it foul. On getting closer he noticed that she had cast her chestnuts which had peeled off. The mare was taken to another place away from the other mares. He suggested the probability of pick foaling, and instructed the groom to watch for foetal movements. Continued and increasing cutaneous irritation was noticed in the limbs, the nose, the ribs, the face, but there was no temperature. Appetite failed generally, especially in the morning. Probably in the early afternoon the mare would begin to nibble a bit, and she might take her evening meal. These symptoms continued, and about Christmas time it was seen that failure was coming about pretty quickly. There was no uterine evidence and there was no reason to believe that the foal was vigorous. The mare eventually became emaciated, got down, and died. The prominent feature of the abominable buccal membrane was a symptom which he would not easily forget.

During this time the owner became alarmed because the mare did not pickfoal, and it was thought she was suffering from poisoning from a dead foetus. Alarm was also felt as to whether it was not something infectious, but he was able to satisfy the owner on that score. He gave the opinion that the mare was suffering from the reabsorption of a poison which was generated in her own body probably of a uterine source. The death was the usual toxic death; she became unable to rise and so died. She was not shot.

In the post-mortem a most extraordinary condition of the stomach was found. It was suggested when she did not pick that she was probably doped. The fashionable dopes—arsenic, antimony, nitrochloric acid, nitroglycerine, were well known, but when the contents of this mare were analysed the chemist found, curiously enough, an excess of zinc. He (Mr. Sumner) had never known zinc in any shape or form to be used as a dope, and incidentally he would be very glad to know if any gentleman present were able to say that he knew of zinc being used for that purpose.

The foetus had died probably a few days before the dam; there was a little bit of detachment from the dam. It seemed to have been arrested and was only a miniature foetus, but it was not a dead foetus nor foetid. The stomach was the root of all the evil. It was the most extraordinary thing he had seen, particularly in the cuticular portion. In the villous portion he felt a difficulty in describing it; in the fresh state it looked as if swollen, rigid, corrugated, and raw, but on the surface it was covered with certain epithelial cells. The liver was enlarged, and the main and subsidiary ducts were wholly hypertrophied. The stomach was passed on to the pathological laboratory of the Liverpool University where it formed a very interesting object of study, and the consideration of its pathological condition had not yet been completed. The first report obtained from the laboratory in February, stated that "the section of the cardiac end of the stomach shows very marked inflammatory fibrosis and thickening of the mucous coat, proliferation of the superficial epithelium which in places is becoming epitheliomatous. The sections of the liver show that the cysts are composed of dense fibrous tissues. The condition of the stomach, which is most unusual, has evidently been due to some continued chronic irritation which has been acting for many months. There is no evidence that the irritant was a chemical one." The Professor adds: "If I had known you intended to show the case I would have given you a longer report. I think it ought to be published eventually. Since writing the report, I have found certain small collections of multi-nucleated cells whose arrangement is such that they suggest parasitic

infection, but I have not succeeded in demonstrating the parasites. Chronic irritation leading to epithelioma is well known in human pathology, but I have no record in animals."

The curious feature of the case was the entire absence of temperature. There was the persistence of this abominable condition of the buccal membranes the whole time, but there was practically no evidence of pain. The owner was informed that the result of the analysis showed an undue proportion of zinc, and he immediately suggested it might be attributable to the fact that the drinking troughs in the paddocks were lined with zinc. This, however, was a mare out of a stud of 30 which were all under the same conditions, and the drinking water was from the corporation water supply, pretty well charged, as usual, with lime, and there was no evidence of it causing a solution of zinc in any great quantity.

At the last Liverpool Assizes a firm of chemical manufacturers was sued for the loss of some sheep which were said to have died through drinking water which had been poisoned by the fumes and effluents from their works. It was found that zinc was present in the dead sheep in unusual quantities, but curiously enough the defendants were able to produce analyses of sheep and other animals from other places far afield which showed quite as much zinc, and in some cases more.

Case 2. Mr. Sumner had been called in in consultation in Cheshire. He asked the owner to describe the case, but was told that the cases were of all kinds. Some of the cattle appeared to be in for pneumonia, others foundered feet, others nervous disorders, others queer on their legs. Some of the animals were attacked with curious periods of increased respiration, which passed off in 36 or 48 hours. At the same place a year before a similar trouble had arisen when the animals had been brought into the homestead. In investigating the cases to find out the cause Mr. Sumner considered the hygiene, the dietary, and practically everything possible, but could not lay his hand on any particular source that was likely to bring about the particular pathological condition. Finally the water was tapped. This was obtained from a borehole, zinc and lead pipes, and stood in a red sandstone reservoir, and some of the water was even used in the house itself. The water supply was stopped and for a time pit water was used. When the water was analysed it showed an enormous proportion of zinc, and fortunately the trouble ceased to exist when the animals went off the water. In view of the loss of the valuable mare previously mentioned, and of the trouble with these sheep and cattle, it did seem to him as if zinc might be a much more serious poisoning agent than many of them would have believed.

IRREGULAR DENTITION.

Those interested in equines, and especially heavy breeds, had all had trouble in adventitious molars, he remarked. The trouble he had himself experienced was with a seventh molar on the lower jaw; he had never come across a seventh molar on the upper jaw which had seriously interfered with the ability to take food. A great trunk of a horse gradually declined, and came to have his mouth examined. No irregularity was found in his teeth and no spaces; his teeth were rasped over, and he was given tonic powders and sent off. But he only went to come back again, there was no relief, he mauled his food and turned it out in pellets. The muscles of his face and lips were found to be alright, and prehension was alright, nothing was found wrong with the palate, nor with the fauces, but right at the top this extra molar was coming down. The horse became emaciated. He was fed on slops until he got tired of them, and the owner came to the conclusion that something would have to be done. Mr. Sumner described to him the difficulty of getting sufficient power at the end

of the mouth to extricate the tooth, and suggested taking the sixth molar out, as he might not be able to get the seventh, and in the hope that the seventh molar would fall in the place of the disused sixth. This was accomplished and the sixth tooth was taken out, and then the seventh. There was a small mark of attrition on the seventh molar where it had come into contact with the opposing sixth, which was worth looking at. The seventh molar on the other side could not be got out, and the horse remained with the seventh molar on his off side. Since this operation the horse had been eating well from that time.

CORONET LAMENESS.

Mr. Sumner went on to put the question whether they would have to recognise that equines suffered from pyrrhœa or alveolar periostitis?

In heavy city practice he thought they would agree with him that sometimes the ricketing of the coronet was one of their greatest difficulties. It was frequently a blind lameness, frequently very intense, and frequently very difficult to treat. Very few cases made rational recoveries. Perhaps only within comparatively late years he had come to the conclusion that most of the ricketed coronet pedal joints were not ricketed so much, but rather that they resulted from arthritis which was due to some interference with the pyramidal process of the pedal bone.

The specimen he showed was the off-hind foot of a mare which had a quitter on the inside. He had operated upon her in the stocks as he could get a fairer cutting by that means than on a table or on the ground, and he had not given a general anæsthetic but had given an injection. Having exposed the necrotic tissue she was packed up and sent home. Everything seemed satisfactory, she was not lame, and the wound appeared to be doing very well. She afterwards went lame, however, and the trouble got worse. The owner thought it was due to something arising out of the operation, and he (Mr. Sumner) thought—had he infected something? Was his needle not sterilised, or the drug he used become effete? The ordinary surgical dressings were removed, and in about a fortnight there was some little enlargement just over the anterior part of the coronet rather to the inner side, and the whole time the mare avoided putting any weight on the foot. This gradually developed until it liquidated, and there was considerable hæmorrhage. The owner did not say "kill," and Mr. Sumner did not. She lived so long that the stuff she was standing on gave way, in fact the pedal bone came down. In the end she was put down, a dissection was made, and the hoof was taken off.

From the specimen it would be seen that the pyramidal process was fractured in several portions, and there was one loose portion on the top. The lameness in this case was not an immediate lameness, but a progressive lameness. No injury was caused in bringing her leg up on to the stocks which might have accounted for the fracture of the bone. How that fracture originated remained a puzzle.

Another case Mr. Sumner mentioned, was a mare discovered lame and put into a forge to have her foot examined. A little humidity was found and the smith thought it was "thrush." The foot was put into a bag, but shortly after the mare was found to be painfully lame. The lameness was persistent, acute, and extreme. The mare put no weight on the limb; she was not pointing and snatching the limb up, but stood on it persistently and would not move it voluntarily. It was suggested to the owner it was a serious case. She was a mare in disagreeable health, had a greasy heel, and was nine or ten years old perhaps, and had a discharge commonly called the "whites." She was a good sort of mare but not a good resistant. In time the affected leg became œdematous, and then the other leg also. Eventu-

ally she was put down. In the specimen it would be seen that he had removed the horny box. The matter was not delayed until the mare showed necrosis of the part affected, but it was decided it was a bad case, and she was slaughtered. In this case he (Mr. Sumner) tried to find a fracture of the pyramidal process; he had held the foot on his knee and had tried in many ways to find whether he could get any direct or indirect crepitation, but had failed. From the section they would see the attachment to the pyramidal process was quite broken off and was going through some necrotic changes. The pyramidal process represented a very definite laceration, and behind the coronal pedal joint would be found all the evils. He thought probably there was more acute pyramidal disease than they were conscious of.

On the subject of dairy cattle, Mr. Sumner mentioned he recently had three recurrences of dropping within 12 hours after apparent recovery, in one particular place. The beasts were down with typical symptoms of milk fever. Inflation was made, and in six hours they regained consciousness, recovered the use of their legs, and every appearance of health, but 12 hours afterwards they were down again. He did not want to touch on the pathology of milk fever, but he should like some information as to whether in the practices of the gentlemen present they had reason to believe that leaving the udder tense after calving was any preventive against milk fever. Until recently, in his own practice when consciousness was restored he had been anxious to get the udder clean, with the idea that it would wash away or bring down something which was apparently causing the nervous disturbance. There were a good many observers who did not quite believe in the presence of autogenous toxin in the udder.

Mr. Sumner then introduced the subject of epizootiology. He had a client, he said, who had a big establishment of coursing dogs. Those who knew the habits of coursing dogs would know that when the saplings were brought into the training quarters it was generally necessary to look out for some kind of disease, as they might be germ carriers, convalescent of distemper but still able to infect other dogs with which they came in contact. This particular outbreak he had no hesitation in saying was the dog typhus or what was known as the Stuttgart disease. The owner came to the conclusion that the kennels must be reeking with infection and he suggested that they should be thoroughly disinfected under his (Mr. Sumner's) direction. But Mr. Sumner suggested that it was not merely disinfection of the kennels that was required but new kennels as the present kennels could only be called dog dungeons. There was no light and the air space was not good. The kennels were long narrow compartments 15 feet high with a little window that could be opened. The roof came about 14 feet and then was cut up at an angle. There was no light, and what little ventilation they got was through the door. The trainers believed that the dogs should be hard worked and put in a place without any light either from the walls or from the sun, and that they should be kept in the dark, and he had to get over that sentimental idea. Mr. Sumner suggested a certain vaccine, which had been put on the market for the prevention of canine distemper, might be used upon one half or two-thirds of the dogs, and the owner agreed to this. Twenty dogs were inoculated and one kennel was altered. All went quite well and the owner was so pleased with the results that he ordered 40 more sets of the vaccine and said he would have them all done the week after the Waterloo Cup when so many saplings would be coming in. Just before the Waterloo Cup, however, the owner reported that several of the dogs were queer again, and they had to vomit them and purge them, as they were not getting the stuff out of their stomachs, and their vomit was found to be full of bile. When Mr. Sumner asked

to see how the dogs were vomited he was given a demonstration with a lump of washing soda about as big as a hazel nut. The stools of these dogs were not quite right, but they took what food they got. He suggested that the dogs for the Waterloo Cup should be removed, and this was done. When the saplings came in he suggested that they should not come into the kennels but should be drafted into another centre and inoculated before they were introduced, for fear that this indefinite disease might be a low form of infectious disease; but the difficulties of arranging separation were too great. The buildings were sprayed with Izal. Twenty-six dogs were inoculated, and in addition the other dogs in the other ranges of kennels that have been mentioned. In the meantime the dogs from the Waterloo Cup came back, and they remained well. The trainer then reported that every dog was sick, both those that were inoculated and those that were not. Whatever was the cause, the trouble has gone on; the older dogs which were fairly resistant have not been much trouble, but all the fresh dogs have had what would be called a gastro-enteritis. The trainer's opinion was that it was due to a blockage in the bowels. A post-mortem was made on one bitch which died, and it was found to have an intussuscepted gut; another had a very acute and hæmorrhagic pneumonia. The question arises, is it distemper in one of its manifold forms? Afterwards when other saplings came in they were taken to another establishment. They were neither fasted nor wormed, but two days after they came in, all in apparent health, they were submitted to inoculation, and at the end of a week it is presumed that immunity will have been acquired—if it can be acquired by this means, and these ten saplings will then be put into the same kennels with the others where this particular disease is ravaging. So that perhaps upon another occasion, said Mr. Sumner, I shall be able to tell you whether these ten dogs by reason of their inoculation have been able to resist the disease.

It was decided that the discussion on the address should be adjourned until the next meeting in July, when it was hoped Mr. Sumner would be good enough to attend to reply on the points raised.

The CHAIRMAN moved a hearty vote of thanks to Mr. Sumner for the excellent address he had given them, and which he characterised as very much more interesting than a set paper. This was carried with applause.

Under the heading of "Interesting cases" Mr. Whitehead instanced a case of a horse suffering from prolapsus ani such as he had not seen for something like 20 or 30 years.

Mr. CLARKSON inquired what had been the result of the case.

Mr. WHITEHEAD: Entirely successful,

Mr. CLARKSON: What was the treatment?

Mr. WHITEHEAD: Holding it back. A man was employed holding it back for a day and a half.

Mr. ELLISON said he had had a similar case to Mr. Whitehead's, and he had supplied a truss which had proved effective.

Mr. SAMPSON said he would like to ask Mr. Sumner's advice upon a question of pigs, as he knew he was a great authority on them. During the last two months he had come across 18 or 20 cases of sows with their first litter going four or five days or even a week past their time, and developing fits, and either dying quickly or parting with one or two pigs and then dying afterwards, some with pigs and some without. The post-mortem showed absolutely nothing macroscopically except in their lungs, where he had seen pretty constant hæmorrhagic patches, but all the other organs so far as one could see were quite healthy. Perhaps the President could say whether he had been called in to see any cases of swine fever in his (Mr. Sampson's) district.

The CHAIRMAN said he had been called in to several cases referred to by Mr. Sampson, and had been quite at a loss to account for death. He had to return such cases as "obscure," all the organs appeared apparently normal.

Mr. CLARKSON said he had had similar cases in his practice, and in some cases a modified ailment of the same type which led up to paralysis, those which recovered from the fits ending in paralysis. He had made two or three post-mortems but had not been able to find anything. He would suggest a toxin.

The CHAIRMAN expressed the thanks of the Association to Mr. Pratt, one of the founders of the Society, and the donor of their collection of horse shoes and other veterinary specimens, for his attendance there that afternoon. They were very pleased to see him once more amongst them, and congratulated him upon the marvellous recovery he had made from his recent illness. He hoped Mr. Pratt would view with satisfaction the provision the Society had made for the collection he had so generously presented to them.

Mr. PRATT briefly replied.

Mr. MCCARMICK proposed a vote of thanks to the President for his services in the Chair, and on being seconded by Mr. Wharam, this was carried unanimously.

J. CLARKSON, Hon. Sec.

"Localised" Tuberculosis in the Pig.

A report made to the Local Government Board by Dr. A. Eastwood and Dr. F. Griffith, issued recently, gives the results of a valuable series of observations on the distribution of visible tuberculous lesions and of tubercle bacilli in pigs selected at the slaughterhouse as examples of minor degrees of pig tuberculosis. The term "localised" tuberculosis is often loosely used in meat inspection, but it is used in this report to signify disease which as naked-eye examination is apparently confined to the lymphatic glands in relation to the alimentary tract. Among the ordinary pigs which come to the slaughterhouse, tuberculosis actually localised in this way is much less common than tuberculosis which is more or less widely disseminated. Thus at the Brighton abattoir, from which a large part of the material was obtained, 24,144 pigs were examined during the period of selection, of which 209 were reported by the meat inspector to be affected by general tuberculosis, 393 had slightly disseminated tuberculosis, while localised tuberculosis was present in only 59. The pig, as the work of the Royal Commission on human and animal tuberculosis showed, is susceptible to infection with various bacilli of mammalian type (including bovine and human) and with avian bacilli. By far the most common source of infection is the bovine, derived from tuberculous milk or from the tuberculous faecal discharges of cattle; but avian infection may also arise from ingestion of the excreta of fowls, while in one or two of the series reported on, the bacilli were found to be of the eugonic type, of low virulence for rabbits, indicating a human source of infection. Avian infection in the pig appears to have much smaller tendency to dissemination—when judged by the presence of naked-eye tuberculous lesions—than bovine infection. Generally, when infection was due to avian bacilli the affected glands were either not enlarged or only slightly so; they contained gritty or calcareous nodules which were easily shelled out of the surrounding tissue, leaving behind smooth fibrous-walled cavities. With bovine infection, a greater degree of local gland affection was apparent, and when closer examination was made in the laboratory of lungs, liver, spleen, and certain other tissues of the pigs classified in the slaughterhouse as examples of "localised" tuberculosis, naked-eye evidence of dissemi-

nation was frequently found. Of the 59 pigs above referred to, for example, the disease was ascertained by this special examination to be strictly localised only in 24. In regard to the presence of tubercle bacilli in apparently normal organs and tissues, it was noteworthy—and reassuring in view of the comparative harmlessness of the avian bacillus to man—that the bacilli were readily found in tissues presenting no naked-eye lesions when avian infection was in question, but very seldom in the case of bovine infection. In one or two instances the examination of the tuberculous lesions of the pig demonstrated the co-existence of mammalian and avian bacilli, or of different kinds of mammalian bacilli, in the same animal. The Royal Commission of 1896 recommended that the whole carcass of the pig should be regarded as unfit for food if tuberculosis was present in any degree, and their finding receives some support as a result of these investigations. In practice, however, the recommendation has often been considered too drastic to be generally acted upon, and various modified standards of condemnation have been adopted. It may be concluded from the report that where partial condemnation is practised it is important that the examination of the carcass and its organs at the slaughterhouse should be thorough, so that the extent to which the animal is affected can be accurately gauged.—*The Lancet*.

Tuberculous Cattle—A Tall Order.

The cause and prevention of tuberculosis in infancy formed the subject of the first of a series of lectures delivered, under the auspices of the Glasgow Infant Health Visitors' Association, at Glasgow University on May 7th. Dr. Leonard Findlay, the lecturer, said a great deal of the disease in infancy and childhood was due to infection from the cow. There was absolutely no reason, he said, why they should not rid the country of all tuberculous cattle. Were the Government to order the destruction of all tuberculous cattle, and make it illegal to keep milch cows of more than five or six years of age, bovine tuberculosis would cease to exist.

It had been stated in Parliament recently that there were 80,000 tuberculous cattle in Britain. That represented £1,600,000 at £20 a head, or only about one-half of the cost of a warship. At present the Government made a grant of £1,500,000 for the erection of sanatoria simply for the treatment of the disease.—*Glasgow Evening Citizen*.

The V.S. in S. Africa—An Appreciation.

The following is taken from the Official Souvenir of the South African Industrial Exhibition held in February, 1914, at Cape Town:—

"Probably no technical man has borne so much opprobrium, received so much opposition, or been the subject of so much banter, yet pushed on more doggedly, than the veterinary surgeon. Fortunately there was one prominent figure whose industry, capability, good work, and good humour always stood out clearly enough to convince those who could see that if there was failure at any time was due to individual and not to the cause. To-day, still, there are those—a good many—who have no friendly feeling towards a veterinary surgeon. Men whose freedom has been restricted on account of the prevalence of some disease or another are not always philosophers. Men who have to apply restrictions are seldom regarded as friends; and sometimes, we must admit, restrictions were not wisely enforced, though the intention was excellent. But the veterinary surgeon has, in the end, won his way, if not to the affection, at any rate to the intelligence of the great majority of the people. It is a long story to deal with the various remedies that have been discovered or

introduced—and here we must include the bacteriologist—but we should at least mention the cure of wire-worm and the geilziekte in sheep; inoculation against rinderpest, redwater, lung sickness in cattle, against blue-tongue in sheep, and against horse-sickness in equines, and the treatment of ostriches for internal parasites. The discovery of the greatest practical value, however, has been the effect of dipping cattle against ticks. It was a farmer who first proved this, but again science had to come to our aid, first in giving us the life history of the various ticks, without which dipping would not have received half the credence it has, because it would often have been wrongly applied, and secondly, in giving us the most suitable formula. Dipping has deprived East Coast fever of its power to decimate, is making cattle farming more profitable, is helping to increase our herds at a greater rate than formerly, has enabled us to restock with sheep whole districts which were less than a decade ago denuded of small stock by heartwater. It is often said that no country is so subject to diseases of domestic animals as South Africa is. If so, it is a tribute to the scientists employed in connection with them that the number of live stock has increased so largely."

DISEASES OF ANIMALS ACTS, 1894 TO 1911.

Return showing the number of Premises on which the existence of TUBERCULOSIS has been notified to the Board of Agriculture and Fisheries during the month of April, 1914.

ENGLAND (Counties) *		ENGLAND (continued) *	
Bedford	2 2	Westmoreland	4 4
Berks	3 4	Wilts	24 29
Cambridge	4 4	Worcester	10 11
Isle of Ely	1 1	York, East R.	2 2
Chester	34 37	" North R.	8 8
Cornwall	12 12	" West R.	33 38
Cumberland	7 9		
Derby	10 12	WALES.	
Devon	7 7	Anglesey	7 7
Dorset	2 2	Denbigh	9 10
Durham	6 7	Flint	6 6
Essex	1 1		
Gloucester	12 12	SCOTLAND.	
Hereford	1 1	Aberdeen	21 22
Hertford	4 4	Argyll	3 3
Huntingdon	2 2	Ayr	4 4
Kent	6 6	Banff	1 1
Lancaster	51 53	Berwick	1 1
Leicester	2 3	Dumfries	4 4
Lincoln, Holland	1 1	Elgin or Moray	1 1
" Kesteven	3 3	Fife	11 11
" Lindsey	8 8	Forfar	5 5
London	3 3	Haddington	1 1
Middlesex	1 1	Kincaidine	3 5
Monmouth	1 1	Kirkcudbright	7 7
Norfolk	2 2	Lanark	13 13
Northampton	3 3	Linlithgow	1 1
Northumberland	6 6	Midlothian	
Notts	4 4	(ex City of Edin.):	6 6
Salop	12 12	City of Edin.	1 1
Somerset	6 6	Orkney	2 2
Stafford	30 31	Perth	8 8
Suffolk	1 1	Renfrew	5 5
Surrey	3 4	Roxburgh	1 1
Sussex, East	3 4	Selkirk	1 1
" West	4 9	Wigtown	2 2
Warwick	8 8		

TOTALS 471 501

* Number of bovine animals suffering from tuberculosis of the udder, tuberculosis with emaciation, or giving tuberculous milk, in respect of which notice of intention to slaughter has been received.

PARLIAMENTARY.

MILK AND DAIRIES BILL.

In the House of Commons on Tuesday, May 12th.

Mr. HERBERT SAMUEL: The general law had had regard chiefly to the prevention of fraud and adulteration, and but little regard to the more important matter of the protection of public health. Expert authorities had reported that tuberculosis among children was undoubtedly spread by the consumption of tuberculous milk, and the Royal Commission on Tuberculosis, which sat for six years, and the recent Departmental Committee on Tuberculosis, presided over by the hon. member for Plymouth, reported unanimously in the same sense. There were in England and Wales 53,000 cases of tuberculosis every year, of which one-fourth were non-pulmonary, and a considerable proportion was due to the consumption of tuberculous milk. About 100 local authorities had now secured power to protect their population against contaminated milk. They were almost all urban authorities and the result was the multiplication of inspection in rural districts which was most distasteful to the agricultural industry. (Hear, hear.)

It had long been recognised that the matter demanded legislation, but the subject has proved a matter of heated controversy. Several great and powerful interests were concerned. The public health authorities, especially in the towns, were properly eager to safeguard the health of their population and unwilling to surrender the powers conferred on them by local Acts unless they were assured that a really efficient system of inspection and control would be established in rural districts. The milk-selling industry, a numerous and highly-organised body, which was conducting a trade of inestimable value to the community, were anxious to secure the purity of the milk supply, but did not desire that in the conduct of their business they should be unnecessarily harassed by regulations. They were especially anxious that they should not be punished for faults that they had not committed merely because they were the parties most easy to reach. (Hear, hear.) Thirdly, there was the great agricultural industry, equally eager to observe any practical measures to maintain the reputation of the milk industry and safeguard the public health, but objecting strongly to the present system of multiple inspection and timid lest they should be exposed to harassing and unpractical regulations framed by persons who had more regard for urban considerations than knowledge of agricultural interests—idealists who endeavoured by a stroke of the pen to make all cowsheds on the farms model dairies.—(Hear, hear.)

He had attempted to frame a Bill that would meet with the general assent of the parties concerned. It was necessarily of a detailed character, but, generally, it proposed to make regulations to prevent the supply of contaminated and dirty milk. Those regulations would be made by the Local Government Board with the concurrence of the Board of Agriculture and would be laid before Parliament and would not become operative if either House passed an Address against them. He was taking every step to prevent unreasonable regulations being made by any Government Department. They proposed to provide means for tracing diseased milk back to its source and stopping that source. Where there was adulteration the Bill enabled improved procedure to be adopted to bring the offence home to the really guilty person. (Hear, hear.) It abolished the present system of multiple inspections and provided a single inspection. It applied similar precautions to foreign milk imported for consumption. (Hear, hear.)

It did not deal with any question of finance, but the Board of Agriculture proposed to compensate farmers for cows that had to be slaughtered on the farm on a more generous scale than hitherto. (Cheers.) The public health grants in the Chancellor of the Exchequer's Budget would provide for paying half the salaries not only of medical officers of health and sanitary inspectors, but of veterinary surgeons and milk inspectors. He would gladly consider any suggestions that might be made. For five years Bills on this subject had been brought before Parliament. He trusted that this Session Parliament would be willing to deal by general assent with a subject which admittedly demanded attention.

The Bill was brought in and read a first time.

REVIEW.

MÉDECINE CANINE, par P. J. CADIOT et F. BRETON. 3me Ed., Small 8vo., cl. pp. x. + 372. With 69 illustrations in the text. Six francs. (Asselin et Houzeau, Place de l'Ecole-de-Médecine, Paris.)

This book really should have been called a "Canine Medicine and Surgery"; for its subject matter comprises almost if not quite as much surgery as medicine.

It is divided into two parts. The first numbers 302 pages, and treats chiefly of the diseases of special organs or sets of organs, including not a few surgical conditions. Close upon fifty pages are allotted to infectious diseases; and the last forty pages deal with "diverse surgical affections." For the most part the last-named portion consists of the general principles of treatment of wounds, abscesses, hernias, fractures, dislocations, etc., with some detailed consideration of a few special conditions.

The second part of the work deals altogether with surgical operations. Rather more than thirty are included, the technique of each being briefly but clearly described. Most of them are common ones; but some—such as trepanation of the nasal cavities and frontal sinuses, and lumbar puncture—are as yet little practised in England. Special attention is given to operations upon the intestines; and one valuable feature is the description, with figures, of a series of intestinal sutures, some of which will be new to many English practitioners. Finally, a short appendix deals with reproduction, parturition, rearing and feeding, and the estimation of age, all of which are treated briefly.

An immense amount of ground is thus covered in a comparatively small space; and it can hardly be said that the results are altogether satisfactory.

Here and there a disease is dealt with fairly fully; and special mention must be made of the long and detailed section, illustrated with eight figures, upon tuberculosis. The authors have had very extensive experience of tuberculosis; and this section alone renders the book valuable to all who are concerned with canine practice. On the other hand, so many important conditions, such as ascites, mammitis, chronic nephritis, and jaundice, are dismissed in little over a page or even less, that we are forced to regard the work as a whole as a little over-condensed.

Still, the condensation has been excellently done; the most essential points are well selected and clearly stated, and if at times the treatment advocated differs from that current in England, the book only becomes more interesting on that account.

On the whole, it may be fully recommended as a succinct *résumé* of clinical canine medicine and surgery. One of its advantages to English readers is that the French in which it is written is comparatively simple.

W. R. C.

ELECTION ADDRESS.

*To the Fellows and Members of the
Royal College of Veterinary Surgeons.*

Gentlemen,

I beg to offer myself as a candidate at the forthcoming election.

I would support rational measures of progress, the maintaining of the present educational standard of the preliminary examination, and any measures which have for their object the obtaining of a fuller recognition in Public Health matters of our profession, and the raising of our status generally.

I am in favour of the Veterinary Surgeons Amendment Bill now before Parliament.

Should I have the honour of being elected you may rely my giving any matter brought before us my most careful consideration, always having in view the advancement of my profession.—I am, gentlemen, your obedient servant,

J. C. COLEMAN.

Hunting Memorial Fund.

Subscriptions received up to 7 p.m., May 13th, 1914.

	£	s.	d.
Amount previously acknowledged	290	19	6
Mr. J. G. Cattell, I.C.V.D., India		10	0
W. C. B. Revill, Lee, s.e.	1	1	0
J. M. White, Salisbury, S. Rhodesia	1	1	0
The Yorkshire V.M.S., per J. Clarkson, Esq., Hon. Sec., Garforth	3	3	0
Mr. R. J. Hickes (F) Market Weighton	1	0	0
Dr. J. G. Rutherford, Calgary, Canada	1	0	0
Mr. R. Bryden (F), Fulham, s.w.	1	1	0
Western Counties V.M.A., per W. Ascott, Esq., Hon. Sec., Bideford.	3	3	0
	£302	18	6

HENRY GRAY, Hon. Sec. & Treas.

23 Upper Phillimore Place, London, W.

Cheques endorsed "Hunting Memorial Fund" and crossed "The London, City and Midland Bank, Ltd."

The Exmoor pony of England, says a New York writer, is classed as the peer of all ponies by many experts. For centuries these ponies have been bred wild on the moors of south-west England. The native stock has been improved by the use of Arabian and thoroughbred blood. Representatives of the breed are of the draught horse type, showing strong, well-knit frames and standing from 13 hands to 14 hands. They are ordinarily bay in colour and are sure-footed, as well as extremely docile. Exmoors are used as harness ponies for light vehicles, for Polo playing and for the use of children.—*L.S.J.*

In a lecture on "The Cost of Living" delivered before the Manchester Statistical Society, Sir Geo. Paish (editor of the *Statist*) declared that from 1896 to 1913 there was an advance in the price of vegetable food of nearly 50 per cent.; from 1896 to 1913 there was a rise of nearly 36 per cent. in the price of animal food, and that from 1898 prices of raw textiles had advanced 64 per cent.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, May 12.

REGULAR FORCES. ARMY VETERINARY CORPS.

Major H. T. Sawyer to be Lieut.-Colonel. Dated April 25.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Capt. E. Franklin to be Major. Dated April 30.

Personal.

Vet.-Capt. ADRIAN JONES has at the Royal Academy exhibition a large portrait of [Field] Marshall Earl Roberts, on his charger (No. 317); also in the sculpture (No. 2041) the late Field Marshall Sir George White, v.c.

Mr. W. F. HOUSTON, M.R.C.V.S., Paisley, was one of the judges of Light-legged horses at the annual show of the Bute Agricultural Society held at Rothesay, on Tuesday, March 5.

Mr. MARSHALL, M.R.C.V.S., Aberdeen, is to be judge of Horse-shoeing at the Central Banffshire Summer Show at Keith in August.

Mr. WILLIAM BRAES, M.R.C.V.S., Linlithgow, is to be one of the judges of Extra horses and ponies at the Annual Show of the Eastern District of Shropshire Association on Saturday, May 30.

GREENING—STANDLAKE.—On the 7th inst., at Clapham, Sydney Herbert Greening, fourth son of the late H. B. Greening, Esq., M.R.C.V.S.L., of Brixton Hill, to Ellen Standlake (*née* Beauchamp).

OBITUARY

GEORGE LEWIS YEATMAN INGRAM, M.R.C.V.S., late of the Brown Institution. Lond: July, 1909.

Death occurred on May 12th, at The Myrtles, Chew Magna, Somerset, at the age of 30.

PERCY BOULTON SPOONER, M.R.C.V.S., Florence Street, Islington. Graduated, Lond: Jan., 1877.

Mr. P. B. Spooner, who died at Islington on Monday 11th inst., was 57 years of age. He was son of the late Prof. Charles Spooner, who joined the staff of the Royal Veterinary College in 1838 and was Principal 1853 to 1872; and who was one of the signatories to the petition for the Charter of 1844; was a member of Council from 1844 to 1871, and President R.C.V.S. 1858-59. Mr. P. B. Spooner had for many years a large horse practice in Islington, much of which remained with to the last.

CRANFORD.—At Bangalore, S. India, on the 4th April, from enteric fever, Ethel Constance, the beloved wife of Major R. L. Cranford, A.V.C.

GAMMELL.—On the 7th May, suddenly, of heart failure, William Gammell, late of Camden Town, in his 75th year.

At a meeting of the directors of the Highland and Agricultural Society held at 3 George IV. Bridge, Edinburgh, a letter was received from Sir Stewart Stockman asking the Society to appoint a delegate to attend the Tenth International Veterinary Congress, which is to be held in London during August. After some discussion it was decided not to send a delegate.

CORRESPONDENCE.

VETERINARY INSPECTION V. THE POLICE.

Sir,

Your editorial in this week's issue of *The Veterinary Record* referring to Mr. Brittlebank's well thought out and excellent address given before the North Midland V.A. strikes an important note.

I strongly agree with you the position of the police as a body in very many instances acts more as a sedative than a stimulant to the smooth working of the various Orders under the Contagious Diseases Animals Acts. No one would advocate the removal of the police *in toto* from the field of action, they have a useful and important work to perform as policemen, and will continue to do so as long as human nature is what it is. Under existing regulations, however, speaking generally, the police inspector is a more important personage than the veterinary inspector, and much as we professional men would like to ignore and contradict this point, there is no denying the truth of this assertion. This state of affairs places veterinary surgeons in most invidious positions, and I know of more than one instance where high class practitioners, men of *locus standi*, have declined to act under existing arrangements. I wonder what some of our *confidres* in the sister profession would say if they were asked in their professional capacity to act subservient to a police inspector, and I should also like to know what punishment the General Medical Council would mete out to a member so degrading himself.

Take the average police inspector serving under the Animal Diseases Act and see what manner of man he is. We find he begins life as an ordinary policeman, and in rural districts passes through the various phases before he blossoms out as a superintendent. This step at once qualifies him to become a fully-fledged police inspector under the Animal Acts. His general knowledge and training is, at the most, what he has picked up in a Board School; his training upon animal diseases and the Acts pertaining thereto is absolutely *nil*. Nevertheless, he is placed in authority, and has the administration of these Acts largely in his own hands.

Given time and experience he will one day become conversant with the proper working of these, but in the meantime he walks on the edge of a precipice and may fall at any moment. All outbreaks of animal (scheduled) diseases occurring within his district are reported to him, he visits them and investigates them, he may even act as his own diagnostician and rely upon his own judgment, or he may enlist the services of the veterinary inspector and give the latter his "marching orders," a somewhat incongruous position for the intellectual and highly trained veterinary surgeon who, before he can enter upon his professional studies at all, must pass a general knowledge examination equal to that of a medical man, serve four years at a veterinary school and pass in deep scientific subjects, before he can receive the "hall mark" to practise his profession. He leaves his College a man of culture and an expert in animal diseases, which ought clearly to entitle him to be the chief moving force where all animal diseases are concerned, and he should look to no one for instructions save to his professional chief.

Moreover, the overlapping of the police inspector upon the professional inspector's duties must in many instances lead to friction, and especially where the administrative ignorance of the former is so patent. Let me illustrate a point of fact. A police officer was raised to the rank of a superintendent, and as such became a police inspector under the Contagious Diseases (Animals) Acts. The veterinary inspector was instructed to investigate an outbreak of anthrax, and only reported it as such. A few days later a farmer in the same district called upon the veterinary inspector and complained to him upon the removal of the remaining cattle from the infected field along the highway which, in so doing, passed complainant's cattle, and adding at the same time if any of his cattle died from anthrax he would hold the veterinary inspector responsible. The

veterinary surgeon assured him he had given no authority to have the cattle removed along the highway. On enquiry later this authority was given by the newly appointed police inspector.

The veterinary inspector from a strict sense of duty reported this irregularity to the authorities, and of course in so doing made a mortal enemy of the police inspector.

Had this veterinary surgeon been out for personal gain only, he would have argued "what difference does it make to him how cattle are moved about," nay, more, he might have added such procedure would bring more grist to the (his) mill, and been content to let it remain there. Not so, he preferred, at the risk of even losing his inspectorship, to prevent a repetition of such conduct. And this is the sequel which follows. From that date onward requests made by the police inspector to investigate outbreaks arrived at most inopportune moments of the day, although the veterinary inspector had regular consulting hours, and in some instances delay in investigations were entailed.

These cases were strung together and extended over a considerable period and laid before the local authority who gave the police inspector the option to choose an additional veterinary surgeon. This veterinary surgeon I believe, has been removed from the Register of the College for a grave offence he committed under the Contagious Diseases (Animals) Acts.

This case only goes to illustrate the power a police inspector has if he chooses to exercise it, and the helplessness of the position of the veterinary inspector in his endeavours to carry out his duties in a conscientious and manly spirit.—Yours truly,

PRACTITIONER.

TREATMENT FOR SCLEROSTOMUM ARMATUM.

Sir,

I have a three-year-old hunter bred gelding which has done very badly the last six months owing to suffering from worms (*Sclerostomum armatum*). He has not grown at all, looks a bag of bones in spite of getting a lot of food, is pot-bellied, and has a staring coat, etc., etc. I have given him worm and tonic powders and also *Liq. arsenicalis*, but no medicine seems to do him any good.

Other veterinary surgeons have told me that they have had similar cases, but that usually the owners have sold the colts after having suffered from this disease for some months.

I would be very much obliged if your readers would give me their experience, especially as regards whether any of their patients suffering from this disease have made a complete recovery.

Perhaps a summer's run at grass may have a beneficial result.—Yours truly,

GRAHAM REES-MOGG.

May 12.

NATIONAL V.M.A.—A correction.

In the report of Council meeting last week, p. 721, the paragraph at the foot of first column should follow the next paragraph, after the word Edinburgh.

NORTH MIDLAND V.M.A.

Sir,

In the report of the meeting of the North Midland V.A. I am reported as advocating the sending of bovines suffering from tuberculosis with emaciation to the knacker's without inspection of other animals on the farm or premises. I think my further remarks will show the necessity of such inspection.—Yours truly,

J. POLLARD.

Halifax. May 12.

Original articles and reports should be written on oneside of the paper only and authenticated by the names and addresses of writers, not necessarily for publication.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1350.

MAY 23, 1914.

VOL. XXVI.

THE MILK AND DAIRIES BILL.

The New Milk and Dairies Bill is now before Parliament and perhaps has a better chance of becoming law than its predecessors. Its present inceptive stage, at which it is still capable of modification, is the best time to consider such of its provisions as affect us. One fact, which some members seem sometimes to forget, should be kept in mind throughout—that there is a great deal in any Milk Bill which has very little to do with our profession. But, so far as this one does concern us, it may at once be said that it is a great advance upon the preceding Bills.

It will be remembered that the Bills of 1912 and 1913 empowered the M.O.H. to inspect cattle "if accompanied by a veterinary inspector or some other properly qualified veterinary surgeon." Veterinary opinion was unanimous in disapproving this proposal; and the present Bill meets our objections. Section 12, Subsection 4 says definitely "Any inspection of cattle made in pursuance of this Act or any Milk and Dairies Order shall be carried out by a veterinary inspector or other properly qualified veterinary surgeon." This puts the M.O.H. and the veterinarian in their proper positions at once—the former has power to cause cattle to be inspected, but the latter alone can inspect them. Further, in the section of interpretations, we read that "The expression 'veterinary inspector' means an inspector being a member of the Royal College of Veterinary Surgeons, or having such other qualifications as may be approved by the Board of Agriculture and Fisheries." So long as the Board of Agriculture alone can authorise the substitution of other qualifications for the M.R.C.V.S., we are content. To obstruct a veterinary surgeon in exercising his powers under the Act or its Orders, again, is as penal as to obstruct the M.O.H.

In other respects the Bill is a very wide one. It empowers the Local Government Board to issue General Milk and Dairies Orders; but only with the concurrence of the Board of Agriculture—a valuable provision—and the consent of both Houses of Parliament. Thus it will be possible to considerably extend the effect of the Bill by subsequent Orders. At present the measure only applies to milk of cows which have given tuberculous milk, or which are suffering from any of the forms of tuberculosis dealt with by the Tuberculosis Order, "or from acute inflammation of the udder, or from any disease liable to infect or contaminate the milk." Many other questions, such as registration of dairies, and the colouring, adulteration, cooling and conveyance of milk, are left to be dealt with by Orders.

The penalties the Bill imposes are not heavy for first offences, but may be made so for old offenders or for "continuing offences." A prosecuting authority may take proceedings against any person believed to be the actual offender against the Act, without first proceeding against the occupier of the dairy concerned.

Further, a dairyman summoned for an offence under the Act may simultaneously summon another person charged by himself as the actual offender, and may thus exempt himself. There is much to be said for both these provisions; though the last one may lead to a good deal of hard swearing.

Local authorities may appoint veterinary inspectors and arrange for bacteriological examinations of milk of their own accord, or may be obliged to do so by the Local Government Board. When a M.O.H. finds that tuberculous milk is coming into his district from that of a second M.O.H., he must report to the latter, who must then cause all necessary inspection and investigation to be made, and allow the first M.O.H. or his veterinary surgeon to be present at such inspection if desired. Copies of all official reports, and information as to any action which may have been taken upon them, must then be supplied to the first M.O.H. This seems a sensible way of dealing with cases that often cause difficulty.

It is quite obvious that the working of this Bill will overlap not a little with that of the Tuberculosis Order. The main purpose of the Bill is to prevent the sale of tuberculous milk; the sole purpose of the Order is to detect and destroy tuberculous cattle in certain stages of the disease. Very often inspections under the Bill will result in the discovery of cows that require to be dealt with by the Order; and a dairyman may be found liable to prosecution under either measure. But often—perhaps generally—the veterinary inspection under both Milk Act and Tuberculosis Order will be done by the same man, and this will tend to simplify matters. Further, one lengthy subsection in the Bill enables the Local Government Board to determine by Order which of its powers are to be exercised by sanitary authorities and which by County Councils, to relegate any such powers to the local authorities for the purpose of the Diseases of Animals Acts, 1894 to 1911, and to provide for all necessary intercommunication between any of these different bodies. If this clause becomes part of the Act, it may do much to facilitate its working.

From our point of view, the most valuable features of this Bill are the full recognition it gives to the veterinary surgeon, and the fact that it allows the Board of Agriculture some control with the Local Government Board.

X-RAYS IN CANINE PRACTICE.

The enclosed two photos of the abdomen of a fox-terrier, taken by an X-ray expert, to locate a bullet, may be of interest to your readers. They show very distinctly the bullet in the abdomen.

I was called to see the dog on Saturday evening and found it with a small wound on the right flank in line with the point of the ilium. The dog was fairly brisk but lay all the time, and when forced to move walked along on his fore legs, never putting the hind ones to the ground. The owner wished everything done for him, and I suggested having the X-rays taken to ensure location of the bullet. This was done on Sunday morning. The owner asked for an operation on the dog, but when the abdomen was opened peritonitis had set in, due to the laceration of the cæcum, and so chloroform finished the operation.

The surgeon who took the photo suggested leaving the dog severely alone, as he had seen cases of bullets being in the abdomen and never causing any serious symptoms, but I am certain that if this dog had been left alone he would have died in a very short time.

JOHN TAYLOR, M.R.C.V.S.

Edinburgh. May 12.

ABSTRACTS FROM FOREIGN JOURNALS.

THE EFFECT OF AGITATION OF CULTURE MEDIA UPON THE GROWTH OF BACILLI.

A. Lucet, in 1911, showed that a gentle and continuous movement of bouillon tubes in which anthrax bacilli are being incubated furnishes more abundant bacterial growths than those obtained by the usual methods of cultivation. The same author now publishes (*Recueil Vétérinaire*) the results of further experiments, which entirely confirm and extend his previous conclusions.

The bacterial yield of cultures in liquid media is considerably augmented by subjecting them to a gentle agitation, and this is true of other germs in addition to those of anthrax. The same rule applies to the microbes of cholera, typhoid fever, diphtheria, blue pus, glanders, dysentery, streptobacillosis of the rabbit, erysipelas, and even to the anaerobic organisms of tetanus and black-quarter. The microbes cultivated in this manner present important modifications in their form. They are shorter than those grown by the usual method, they stain less intensely, and they are poor in spores. The culture medium, also, appears more viscous and more deeply coloured in this method of cultivation. The virulence of the bacilli does not appear to be lessened.

The author attributes this increased microbial proliferation to two causes. In the first place the agitation establishes a better contact between the bacilli and the nutritive medium. Secondly, the agitation disperses the toxic products which the

bacilli secrete, and which, in a still medium, accumulate in their neighbourhood and destroy the powers of assimilation.—*Annales de Méd. Vét.*

THE ÆTIOLOGY OF ACNE.

Ludwig Rimpl has been working upon acne in horses and dogs, and endeavouring to demonstrate the specific cause of the disease by cultural and inoculation experiments. Altogether he has worked upon twenty cases of acne (thirteen horses and seven dogs). He publishes (*Oesterreich Woch. f. Tierheilk*) his conclusions, which he summarises as follows:—

1. Acne in domestic animals is caused by staphylococci. The most important of these is the *Staph. pyogenes aureus*, the second in importance is the *Staph. pyogenes albus*, while the *Staph. pyogenes citreus* seldom causes acne.

2. From a morphological, biological, and pathogenic point of view there is no distinction between staphylococci from a case of acne and pathogenic staphylococci of other origin.

3. Friction, sweat, and the other factors which used to be quoted as causes of acne have only a predisposing influence.

4. Acne cannot be produced with the streptococci of strangles.—(*Berliner Tier. Woch.*)

HÆMOGLOBINURIA IN FOALS.

Kränzle, of Griesbach, briefly describes a peculiar disease which he has repeatedly observed during recent years, and in the present year also. In most cases it attacks young horses, and more especially yearling foals. It begins with a severe inflammatory unilateral or bilateral swelling of the muscles concerned in mastication. The masseters feel as hard as boards, and the animals can only open their mouths with difficulty and cannot take food. In most cases the swelling of the muscles soon disappears, but a paralysis of the same muscles remains, so that, though the animals generally show appetite, they starve through inability to take food.

Very often, but not always, hæmoglobinuria appears late in the illness. In many cases it exists from the beginning, so that the disease can be diagnosed as "hæmoglobinuria," with the distinction that the masticatory muscles are affected, and not those of the croup. Despite all possible endeavours Kränzle has not yet succeeded in saving a single animal affected with these symptoms.—*Munchener Tier. Woch.*

[Nothing is said of post-mortem examinations.—*Transl.*]

Last year the receipts at the Metropolitan Cattle Market at Islington amounted to £26,462, as compared with £24,805 the year before. The supplies of animals numbered 315,206, as against 308,193 in 1912 and 404,883 in 1911.

The number of home animals sent for sale continues to decrease, but the number of beasts consigned direct to the public slaughterhouses shows a large increase, due primarily to the absence of foreign cattle.

Royal College of Veterinary Surgeons.

FELLOWSHIP DEGREE.

A meeting of the Board of Examiners for the Fellowship Degree was held at the College, 10 Red Lion Square, W.C., on Saturday, May 16th, 1914. The following is a list of the successful candidates, together with the titles of their respective theses:—

BAGENAL HARVEY MELLON, "An account of some aspects of disease as it affects the brain of the horse."

JOHN HOLROYD, "Embryotomy."

The Examiners were Prof. J. Macqueen, Messrs. J. Malcolm and W. Woods. Mr. W. J. Mulvey in the chair.

FRED BULLOCK, Secretary.

NATIONAL VETERINARY MEDICAL ASSOCIATION

INSURANCE FEES.

The final meeting of the Special Committee appointed to deal with this matter, met on Wednesday, the 13th inst., at Tonbridge.

The question of mileage was again fully considered, and it was unanimously resolved to put this in the form of an additional fee, as shown on the accompanying scale, which was adopted by the Council of the Association at their meeting on the 14th of March last, for reasons stated in the circular letter.

The Secretary was directed to send copies of the prepared scale to all affiliated Societies in the kingdom forthwith, asking for their support and its adoption by them.

Scale of Fees as finally adopted by the Council of the National Veterinary Medical Association at their sitting on 12th March, 1914, for examination and report on general health, condition, age, colour, markings, and approximate value of animals, proposed for insurance:—

HORSES AND VALUABLE PEDIGREE CATTLE.

- | | |
|---|------|
| (a) Single animal under the value of £50 | 5/- |
| Two animals " " " Each | 5/- |
| After the first two | 2/6 |
| (b) Single animal valued at £50, under £100 | 10/6 |
| (c) Single animal " £100, " £250 | 15/- |
| (d) Single animal " £250, " £1000 | 21/- |

If more than two animals are examined, the third and all subsequent ones at half the above charges.

STORE CATTLE, ORDINARY MILKING COWS, ETC.

- | | |
|---|------|
| (e) Single animal | 5/- |
| Two or more animals per head | 2/6 |
| (f) Special reports on illness, accident, etc. | 10/6 |
| (g) Post-mortem examinations and reports each | 21/- |
| (h) Other stock, sheep, pigs, etc., in considerable numbers, by special arrangements. | |

The above fees are for services rendered at the Veterinary Surgeon's establishment, or within the distance of one mile thereof. For allowances beyond one mile the following additional fees are to be charged in lieu of mileage:—

From 1 to 3 miles, 1/-; 3 to 5 miles, 2/6; 5 to 8 miles, 3/6; beyond 8 miles in proportion.

THEO. C. TOOPE, Hon. Sec. Southern Branch.

NATIONAL VETERINARY MEDICAL ASSOCIATION. 34 High Street, Dover.

Dear Sir,

May 18, 1914.

I am directed by the Council of the Association to send you a copy of the enclosed scale of fees for services rendered to insurance companies by veterinary surgeons in the hope that your members will likewise adopt them, and induce other veterinary surgeons to do so. They have been most carefully considered and have been agreed to practically with unanimity by the Special Committee appointed, and also by the N.V.A. Council.

I shall be glad if you will bring the matter before your members at their next meeting, and on hearing from you as to your requirements I will forward the necessary number of copies to circulate in your district.

I may add, that my Divisional Society, the South Eastern, at their last meeting, have already unanimously adopted them as the lowest terms under which our members will render service in the future.

It has been deemed advisable to put the mileage in the form of an additional fee, otherwise it was thought possible that local authorities might possibly copy the reduced scale as first suggested to our detriment, in many districts, as veterinary inspectors.

Unity is strength, let us again show the force of this axiom.—Yours very faithfully,

THEO. C. TOOPE, Hon. Sec. Southern Branch.

CENTRAL VETERINARY SOCIETY

[NATIONAL V.M.A. SOUTHERN BRANCH.]

The usual monthly meeting was held at 10 Red Lion Square, W.C., on Thursday, May 7th, Professor G. H. Wooldridge, President, in the chair. The following Fellows signed the attendance book: Messrs. B. Gorton, W. N. Thompson, F. G. Samson, R. J. Foreman, J. F. Macdonald, L. Auchterlonie, J. W. McIntosh, G. H. Livesey, Prof. E. B. Reynolds, R. Eaglesham, J. Willett, J. B. Buxton, F. W. Willett, C. Cunningham, R. Bryden, N. Almond, C. H. Sheather, R. W. Clarke, G. Gordon, A. E. Bayley, B. A. McGuire, Prof. J. Macqueen, and Hugh A. MacCormack, hon. sec. Visitor: H. H. Curson.

On the motion of Mr. McIntosh, seconded by Mr. Samson, the minutes of the last meeting having been published were taken as read. As they were not yet all affixed in the minute book, the signing was deferred to the next meeting.

Correspondence. The SECRETARY stated that he had received a letter from Sir Stewart Stockman, respecting the International Veterinary Congress, and another from Mr. Joseph H. Carter (President of the R.C.V.S.), relating to the pension for the dependents of the late Mr. Hunting.

On the motion of Mr. McIntosh, seconded by Mr. J. Willett, the President was asked to attend the Congress on behalf of the Society. Prof. Wooldridge assented.

On the motion of Mr. Foreman, seconded by Mr. Livesey, the meeting endorsed the action of the President in signing the "Hunting" petition on behalf of the Society.

MORBID SPECIMENS.

The PRESIDENT referred to the specimen, submitted by Mr. Livesey at the last meeting, of the penis of a dog in which hæmorrhage had been taking place for a considerable period. The speaker had been requested to have sections cut and examined, as Mr. Livesey thought that there might be some malignant growth. On cutting the sections and examining same, however, he had

found no signs of such growth, the thickening observed being connected with the scar tissue. A puncture led into some of the caverns or sinuses of the *corpus cavernosus*, suggesting that the original injury was some wound in one of the sinuses, and that, owing to intermittent erections and hæmorrhages, healing had been retarded. There was no injury to bone, so far as he could see. It was difficult to explain the fact, pointed out by Mr. Livesey, that there were sometimes intervals of six or eight weeks between the hæmorrhages; microscopic examination revealed no cause for the peculiarity beyond the presence of the wound.

DILATED ŒSOPHAGUS IN THE REGION OF THE NECK IN HORSES.

MR. N. ALMOND introduced to the notice of Fellows two cases which had come under his observation, and which, so far as he knew, were unique. He was therefore desirous of obtaining opinions as to the frequency of such occurrences. Fellows would be more or less aware of the acute diseases of the œsophagus, and the trouble and fatality attending them; but the cases to which he was referring were not of that character. These cases consisted in the existence of a kind of pouch at the lower third of the cervical portion of the œsophagus, and during the period of feeding, as well as for some time after, these pouches were, to a greater or less extent, distended with ingesta.

The first case was one of an ordinary van horse, which did all kinds of work of a market gardener for thirteen years. The horse was in the habit of travelling from a place beyond Hampton to London three times a week. Sometimes the œsophagus would be distended by ingesta to a greater extent than usual, and, in these instances, the carter who had charge of the animal was accustomed to manipulate the part, and in that way successfully endeavoured to pass the food on.

The second case was under the speaker's notice at the present time. It was a seven-year-old gelding, bought as a good worker, at an auction, for £20. At the time of the auction the purchaser did not observe any defect, but soon after the animal was taken home he noticed a swelling in the neck. Being alarmed, he had consulted the speaker, who, but for his experience of the first case, would have shared the alarm. For six months the horse had been doing work incidental to the business of a furniture remover. The animal was a roarer, and would make a noise when going up a long hill, but showed no distress when ascending a short hill. It made rather more noise after feeding, and the practice had been adopted of feeding it earlier than the other horses, so as to afford opportunity for any difficulty to be got rid of before the animal started. The horse apparently suffered no inconvenience, and the owner had consulted Mr. Almond as to whether he should keep it or sell it. Having the first case in mind, and the horse being a good worker, such as would ordinarily cost £35 to £40, the speaker advised his client to keep the horse notwithstanding that it was a roarer. He might say the animal had worked well ever since. Water was given after feeding in order to rinse out the gullet. The first drink generally caused a cough, and when the animal drank a second time there was usually no further cough. The water distended the gullet to some extent, and there might be a little food remaining, but this was easily passed on by manipulation. On one day the horse had done 45 miles between 6 a.m. and 10 p.m. without harm resulting, and on the next it did its ordinary local work. He thought the case an interesting one, and he desired to have the opinion of Fellows as to the prospect of life, and as to the representations to be made to the insurance company in case it were desired to effect an insurance.

MR. FOREMAN observed that the cases just submitted brought to his mind a cases which happened about

fifteen years ago, and which he regarded as similar. He had endeavoured to pass the probang in the upstanding position, but it would not pass a swelling in the neck. He then cast the horse, and although using considerable force, failed to pass the probang. When the animal rose he told the man in charge to rub in stimulating liniment. He also gave the animal a hypodermic injection of morphia. The trouble then passed away, recurred several times, but did not require active treatment. As he had been unable to remove the obstruction he supposed the probang had got into the sac.

He had knowledge also of a similar case in a human being, but in this instance the person was able to regurgitate the food when it got into the sac.

On the question of insurance, he should describe the horse to which Mr. Almond referred as a "bad life."

MR. SHEATHIER enquired whether, in the first case mentioned by Mr. Almond, the malady was of gradual growth, or had existed for the thirteen years referred to. To this Mr. Almond replied that the trouble was regular with the horse, and had existed, at all events, for several years.

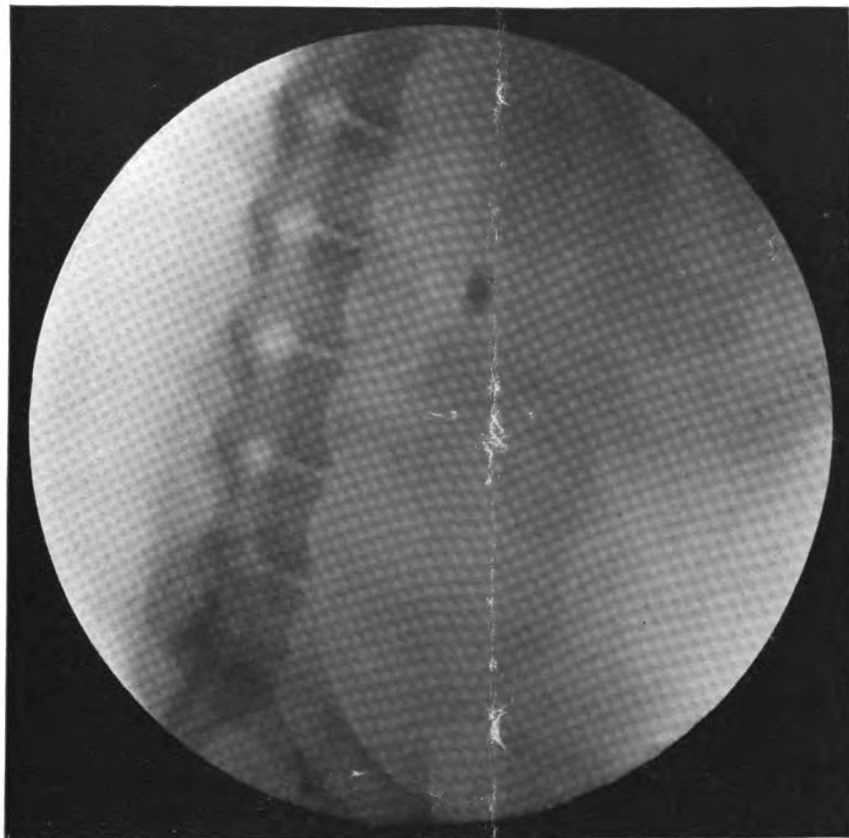
Mr. Sheather, continuing, stated that he had experience of one case. His father having been called to see a thoroughbred mare which had a wound on the neck through which was discharging food. His father had cast the mare, giving her chloroform, and endeavoured to find out at what point the œsophagus was perforated. With the object of trying to suture the œsophagical wound, he had made an incision over the swelling. He then found that the membranous lining of the œsophagus was burst and was in small shreds. Nothing could be done, and the mare was destroyed.

MR. WILLETT enquired of Mr. Almond whether dilatation took place after every meal, or at intervals of two or three days. He was informed that it happened whenever the animal fed.

MR. COLEMAN referred to a case of which he believed he had already submitted details to the Society. A polo pony had shown swelling in the region of the lower third of the cervical portion of the œsophagus immediately upon drinking a quantity of water. This would disappear again in a short time and seemed to cause the animal little or no inconvenience. The animal had come into his hands after being affected in this manner for three years, and he had destroyed it. He found upon post-mortem examination an egg, which was covered with inflammatory tissue to the thickness of about half-an-inch attached to inner wall of œsophagus in the thoracic portion just before passing through the diaphragm.

Another case was that of a three-year-old entire horse. It had had strangles some ten months ago, and had presented a swelling in the lower third of the œsophagus at intervals for the past eight months outside the thorax, and only on one side. He had not then diagnosed the case as one of dilatation of the œsophagus, although strongly suspecting this condition. He had instructed the owner to take the horse in and keep it without food or water for two days. The horse apparently recovered, the swelling disappearing, and the speaker was told not to trouble further. He had, however, been interviewed on the previous day, and had been informed that the swelling had reappeared. His intention now was to castrate the animal, to keep him quiet, and apply a blister over the region of the swelling; the animal was to be kept on emulsient food for a fortnight or so afterwards. The animal showed no signs whatever of distress.

The PRESIDENT had seen only two cases in which the condition corresponded with that described by Mr. Almond, and in each case food was returning through the nostril, particularly the water. If the horse were kept without food and water the swelling subsided. Then, when a pail of water was given, by placing the



On side.



On back, with legs extended in the air.

BULLET IN THE ABDOMEN OF A FOX TERRIER.

Illustrating note by Mr. J. TAYLOR, M.R.C.V.S.

hand over the place where the dilatation had previously occurred, the water could be felt rushing into it, and a little must evidently have passed through, because the swelling did not increase in the same degree as the water disappeared from the pail. By leaving the animal alone, so far as administration of remedies was concerned, he seemed to recover himself. If the dilatation contained solid food the horse was given a pail of water and the swelling was manipulated to allow the water to get into the part, soften it, and gradually pass through. The horse was not at all distressed. Subsequently the animal was lost sight of. The foregoing remarks applied almost identically to the second case which came under his notice.

As to the prospect of life, he agreed with Mr. Foreman, and in spite of the fact that the horse mentioned by Mr. Almond had gone on fairly well for thirteen years, he would not pass such a horse for insurance. There were cases of men who had, in their early days, been refused by insurance companies but had yet lived to ripe old age; he believed such cases, however, to be quite exceptional. He would ask Mr. Coleman whether he thought castration in his case would have any sort of influence on dilatation of the œsophagus.

Mr. Coleman replied that his object had merely been to keep the animal quiet.

Mr. ALMOND enquired whether the return of food or water through the nostril was invariable.

Prof. Wooldridge replied that during the week he had the horse under observation, water and small amounts of food were returned after drinking.

He considered that cases of reported vomiting in the horse were due to a similar condition intra-thoracically. He had not been able to make any post-mortems in such cases, but he suspected such a condition.

Prof. REYNOLDS asked for more details of the condition observed in the horses. Mr. Almond had stated that the trouble occurred every time the horse was fed, and the speaker would enquire whether the animal ate all the food provided at one time. He could not understand why water was given when the œsophagus was dilated with food. He would have thought it was a serious matter to give the horse water, but since this was done he would ask if the animal was able to swallow water, and if so, in what quantity, and whether easily? Did the swelling go down after the water had been taken? If the swelling remained, and the animal could swallow water, that would appear to indicate that it was a pouch on the side of the œsophagus that was filled with food, and not a dilatation of the whole œsophagus. After food did any acute symptoms of choking occur, such as retching or salivation? He would describe a horse in the condition named by Mr. Almond as unfit for insurance.

Prof. MACQUEEN desired to ask Mr. Almond whether he had ascertained if the dilatation referred to was a simple dilatation of the gullet or a dilatation associated with rupture of the muscular coat. The former was not uncommon, while the latter was. The position of the dilatation was not always at the root of the horse's neck, but was sometimes within the thorax, close to the diaphragm. With regard to cause, he thought dilatation in the inferior region of the neck was usually preceded by choking, and, either in the efforts made by the horse to relieve itself from the obstruction or the efforts of the veterinary surgeon to effect relief, the mucous membrane became injured. In course of time this would be followed by stricture. Whenever there was stricture, dilatation would take place, immediately above the constricted portion. There was a possibility, of course, that dilatation of the gullet did occur as a primary condition where an animal had swallowed some foreign body, which became arrested for a time in the gullet as it entered the thorax; but in most cases dilatation followed stricture. At the region mentioned by

Mr. Almond the œsophagus made a curve in entering the thorax, and was particularly exposed to injury from the passage of the probang, especially when the latter was passed in the standing position.

The interesting point as to the prognosis turned on the condition of the gullet as a whole. If the dilatation consisted of dilatation of the mucous membrane and of the muscle, it was very likely that the dilatation was gradually produced, and the condition was akin to the crop of a bird; the animal might continue to be serviceable for many years, though he would probably require to be fed with considerable care. If, on the other hand, dilatation was due to rupture of the muscular coat, there was, of course, great danger of perforation of the mucous membrane. Then, perhaps, attention was directed to the case by the formation of a swelling without any known history of an injury. An abscess formed and there was a discharge; on exploration the discovery was made that the abscess was in communication with the gullet. In thoracic cases there was nearly always regurgitation in the intervals between feeding; very frequently the animal salivated and the appetite might be very defective. But, in these cases, he was unaware of any useful treatment. They generally led to the death or involved the destruction of the horse, according to the speaker's experience. He would personally have advised the destruction of the animal referred to by Mr. Almond as a roarer if the roaring was caused by pressure of the dilated gullet.

Mr. ALMOND, replying to the discussion, pointed out that he had not connected the roaring of the horse with the dilatation of the œsophagus; the two pathological conditions might co-exist without relationship. While thanking Fellows for their comments, he could not trace much connection between the cases he had brought forward and those submitted in the course of the discussion, inasmuch as the latter were more or less all acute cases. The case mentioned by Mr. Foreman, for instance, was one of choking—obstruction in the œsophagus, which differed entirely from the cases submitted by the speaker, where there were no acute symptoms. In these latter cases the horses did their ordinary work, and in the first case the animal was treated as an ordinary horse, going a distance of twelve miles or so to London and back three times a week, and doing home local work on other days. In the second case also the horse was doing ordinary work in furniture removing. The work (of which he had given particulars) was done without distress, and there were no acute symptoms. He had himself formed the view taken by Prof. Macqueen, that the condition was an abnormal one and resembled the crop of a bird; of course he was not aware that any digestive work was going on there.

Turning to Mr. Sheather's case of rupture, there again there was an absence of any resemblance. The case mentioned by Mr. Coleman was somewhat similar to that to which he had directed attention, inasmuch as there did not seem to be any acute symptoms, and the animal was not distressed. In such a case, judging by his own experience, there seemed to be no reason for treatment; indeed, he thought treatment was more likely to do harm than to do good. He was basing his opinions upon the only two cases of which he had knowledge. Prof. Wooldridge had referred to a case, common enough, of an acute nature—obstruction in the œsophagus.

Prof. WOOLDRIDGE desired to point out that the cases he had referred to were of marked dilatation of the œsophagus and not of marked obstruction. When the animal took food or water it remained for some time in the dilated portion of the gullet. He failed to see that water in that place could be a cause of obstruction. There may have been a cause of obstruction posterior to that, and this he assumed to be a stricture. He had not dwelt further upon the point, and stated

what he thought to be the cause of the dilatation of the œsophagus, but had assumed that the swelling of the œsophagus was due to some posterior trouble. Cases of œsophageal choking in the horse, especially in greedy feeders, were not at all rare, and the speaker would certainly not have stated that he had met with only two cases of obstruction in the œsophagus.

Mr. ALMOND, continuing, said that in answer to Prof. Reynolds he would state that there was no evidence that the whole of the œsophagus was dilated. The swelling occurred in the lower third of the cervical region, what might be beyond or posterior to that he could not say. The principal fact was that the animals were in no way distressed. In common with other practitioners, he had experience of several cases of disease of the œsophagus leading to a fatal issue, the causes of which were well known; he had made post-mortems which revealed the causes clearly. As he had said, after feeding a certain amount of food was left in the lower part of the œsophagus, which, on discovery, owners endeavoured to remove by manipulation. The amount resting in the œsophagus was not always the same, it depended to some extent upon how long before the animal had been feeding. If there were much distention it was customary to manipulate the part and give the horse a drink of water. With the first drink came the cough, the swelling passed away, and the horse drank ordinarily. In the particular case to which he was referring it was the practice to give the horse water after feeding. He had mentioned the fact that the horse was a roarer, because the horse was bought for £20, but was doing the work of a horse that would cost £60 or more.

He might have been misunderstood, but there was no reason why he should associate roaring with dilated œsophagus. He saw no reason either for destroying the horse, as had been suggested. Prof. Macqueen had asked him whether he had been able to ascertain if the dilatation included both mucous membrane and muscle. He believed it did. Had there been any rupture of the mucous membrane, he could not believe that the horse would have gone on for so long without showing distress. His impression was that there was no rupture of muscle either; he could not feel any. There was a general rotundity in the neighbourhood and a slight thickening of the part. On manipulating the empty œsophagus, it gave an impression of being somewhat thicker than normal. Neither during dilatation nor when at rest was there any evidence of rupture, so far as the speaker's manipulatory powers conveyed to him.

SOME INTERESTING CASES.

By R. EAGLESHAM, M.R.C.V.S.

SUBCUTANEOUS SARCOMATA IN THE HORSE.

A twelve-year-old black cut gelding, last September showed growths in the subcutaneous tissues which have gradually grown since. These growths are most numerous on neck, about shoulders, and on sides over the ribs, as well as on hindquarters. The largest are about the size of a pigeon's egg, and although not attached to the skin they show up prominently beneath it, especially the largest and oldest tumours.

The horse is in good health, and beyond the appearance of the growths, which are quite free from pain, they do not at present render it unfit for work. The tumours will of course in time get larger. Four of the largest tumours I have cut out, and you will see that they are built up of that embryonic connective tissue which characterises the sarcoma. Two of the tumours I submitted to Sir John M'Fadyean for examination; he informed me that histologically they are of the same

character as the sarcomata. He said the largest size they attain is about that of a goose's egg, and that they never affected the internal organs.

Similar tumours were described by Mr. Park, of the New Zealand Department of Agriculture in 1897 as being due to lymphadenoma and by Mr. Gilruth of the same department later as malignant sarcoma. Mr. Gilruth shows a very good photograph of a New Zealand pony affected with them in *The Veterinary Record* of 24th Nov., 1900.

I should be glad to hear if any of the Fellows of the Society have met with similar cases. It is difficult for the veterinarian to follow these cases to their termination, the animals get worn out and change hands, and thus to get post-mortem examinations is difficult.

RHEUMATIC TENDONITIS.

Rheumatism is a constitutional disease in which fibrous structures, especially joints, muscles, ligaments, tendons, tendon sheaths, and periosteum are inflamed and painful.

It is not now exclusively looked upon as being caused by colds, but due to infectious origin (coccus). Horses may be subject to acute attacks of rheumatism with fever and sudden lameness, with or without swelling of some particular articulation, tendon, or bursa, and the lameness may disappear from one part of the body and reappear in another, as from a foreleg to a hind leg. With a course of treatment internally and locally recovery may be rapid in some of those cases.

The chronic form of rheumatism that I wish to refer to is that which we meet with in the horse following influenza, pleurisy, dropsy or purpura, and is due to infectious origin; it affects the flexor tendons and their sheaths of both front and hind limbs.

Mild attacks following illness may only affect the sesamoidean bursa of one or of all four legs, which may be swollen and painful, and this, with local and internal treatment may pass off without leaving any permanent bad effects.

In the chronic form the disease generally starts in the sheaths of the tendons, and I have found that this form of tendonitis is more obstinate to cure than an inflammation mechanically produced in an animal that is otherwise sound.

Two clinical cases of this class that I have had recently under treatment I wish to bring to your notice—a six-year-old brown cart gelding and a six-year-old bay cart mare. Both these animals had been ill with influenza during the winter of 1912-13, and both had apparently recovered and, on resuming work, both developed lameness, which followed a chronic course in much the same way in both cases, affecting both front legs. The lameness was not very well marked at first in either case; stiffness at first, with a tendency to lie longer in the stall than usual, and on rising cramp of the legs would be shown, which would pass off with exercise. This went on for several weeks before both animals were incapacitated for work through severe and gradually increasing lameness. In the case of the gelding there was no enlargement of the check ligaments or swelling of the sesamoidean bursa, the disease apparently being in the sheaths of the tendons; but in the mare the check ligaments and fetlocks were enlarged.

As time went on the legs assumed an upright or straightened form; and with gradual contraction of the tendons knuckling over of the fetlocks took place. In the end both animals were practically walking on their fetlock joints.

The treatment followed out in both cases in the early stages was both internal and local. Salicylic acid was given internally, and local treatment, bandaging, embrocations, blister, followed by a run at grass; but these

were of no avail, and both cases being incurable the animals were destroyed.

Post-mortem appearances. Thickened check ligaments in the case of the mare, and inflammation of the sheaths of the tendons in both cases.

RENAL DISEASE (CALCULUS) IN A MARE.

The following is an interesting case of chronic nephritis with formation of calculi which I have recently met with in a twelve-year-old bay van mare.

For a period of about two years the mare passed blood casts in the urine intermittently. Beyond this she did not seem to suffer any inconvenience, showing no systemic disturbance, keeping up her condition, and she was able to continue at work. During the last six months she showed impaired appetite, and began to lose flesh, and had to be stopped working. No alteration in pulse or temperature was shown, but symptoms of thirst, weariness, irritation of bladder, manifested by frequent staling of large quantities of somewhat clear coloured urine which smelt badly, were shown. No blood casts were passed in the urine during the later stages of illness. There were no dropsical swellings visible about body or legs; no pain was shown on pressure over loins; and the animal's gait was in no way affected. No colicky pains were shown, nor difficulty in urinating. Rectal examination revealed nothing abnormal with the bladder or ureters.

In the early stages of the disease the urine, tested by nitric acid, showed the presence of albumin. The case was diagnosed as one of chronic nephritis with cystitis, and being considered incurable the animal was destroyed.

The duration of the case from the time blood casts were first noticed till mare was destroyed was 2½ years. The time mare was incapacitated from work about 5 months.

Post-mortem appearances. There were serous effusions around the kidneys. The surface of the left kidney uneven, wrinkled, and felt lumpy and somewhat hard. The pelvis of the left kidney was enlarged, the mucous lining being thickened. The pelves of both kidneys were filled with sabulous matter.

There was formation of small calculi in the structure of the left gland, and the formation of new interstitial connective tissue, causing hardening with a tendency to shrivelling of the right gland. The ureters were thickened and dilated. The bladder: the mucous membrane was inflamed and thickened in places.

All the other internal organs were found healthy.

Remarks. The case seems to me to have been one of chronic nephritis and pyelitis with the deposit of calculi. The presence of gravel and sand in the pelves of kidneys is said to cause pyelitis as well as the presence of worms and calculi.

Pyelo-nephritis is said to be more common in the mare than in the horse from bacillary infection from uterus. The irritation of the ureters and bladder in this case I should say was due to the passage of sabulous matter from the pelves of the kidneys.

DISCUSSION.

Mr. THOMPSON, referring especially to subcutaneous sarcomata, stated that some years ago his attention had been directed to a bay mare which had developed what appeared to be fibrous growths just under the skin on the side of the shoulder and behind the thighs, immediately below where the breeching came. He had had the mare under observation for six or seven years, and the growths increased in size and number until she was a mass of nodular growths under the skin. After a while she became unsightly in the street, and she began to lose flesh. She was sent to the Veterinary College, and Prof. M'Fadyean had reported the growths to be

sarcoma. He did not know whether anything internal had been found.

With regard to rheumatic tendonitis, he had formed the habit of classing rheumatism in the horse with influenza, shoulder lameness, and concussion—very good terms to use. At times, however, a case of tendinous rheumatism was met with.

Some while ago he had in hand the case of a roan parcel horse. The animal had left the stable perfectly sound, but within an hour instructions were received by wire to fetch him in again. The horse absolutely could not walk. He was placed in a box, standing with one hind leg flexed, and was sweating and tucked up. On the following morning he had the other leg flexed in the same way, and for a day or two the lameness changed from leg to leg continually. In a day or two he would fall out sound. He was sent out to work, but after working perhaps a week he had to be fetched in again. He examined the iliac arteries per rectum, as he thought at first that the animal had thrombosis. After a time the sesamoid bursa became enlarged and hard, and the horse was fired on both fetlocks, and blistered.

After a rest the animal was again put to work, and a month later the speaker congratulated himself that the trouble had been overcome. The horse again manifested the same symptoms, and was then sold. Some weeks after Mr. Thompson had seen the horse doing slower work in a dray.

A more recent case was that of a black mare, which, when brought to his notice, had a slight coryza accompanied by a temperature of 102°; she was not eating much. He had directed that she should be placed in the box and given a dose of mag. sulph., believing that she would be alright in a short time. When seen some days later she had developed thick leg, the off-fore fetlock was much enlarged. The leg did not go down under the usual treatment as it should have done, and in about a month she was suddenly very lame in the opposite leg. Apparently there was nothing to account for the lameness. One day he thought he felt a slight swelling over the sheath of the tendon of the extensor pedis above the knee. Two or three days later coagulated synovia was obtained from the sheath, some of the synovia being round and fairly hard, the condition being similar to that occurring with rheumatoid arthritis in canines. The sheath was syringed with a solution of perchloride of mercury 1 in 500. The wound healed, and the mare was now working in a sound condition.

Another case was a chestnut horse, which, after influenza, went suddenly very lame. Nothing could be found in his legs, and tendinous rheumatism, neuritis, etc., were diagnosed, and he remained lame for about six weeks. Eventually, after working for about a month or six weeks the horse came in with ringbone. That had been the termination of many of the speaker's shoulder cases.

Mr. C. H. SHEATHER had personally no doubt of the existence of rheumatic tendonitis, and as Mr. Eaglesham had said, it practically always followed illness of some sort, particularly influenza; it occurred sometimes after strangles. The speaker's method of treatment was different. When he suspected the onset of the malady, the animal was never watered without bicarbonate of soda or carbonate of soda being dissolved in the water, local treatment of course being carried out.

Mr. FOREMAN stated that at one time in his district cases of tendonitis were frequent, but of late years he had not met with it to the same extent. In the early stage of most cases it was hopeless to treat with aspirin or any of the treatments for rheumatoid cases. He had found the disease mostly in imported ponies. Once commenced he had found the cases hopeless so far as

treatment of any kind was concerned, and deformity ensued.

Mr. C. H. SHEATHER referred to a translation from the Italian which he had recently seen, and in which treatment by camphor dissolved in almond oil and ether applied subcutaneously, was suggested. He proposed to try it.

Mr. ALMOND said that while rheumatic tendonitis was common in horses it was even more common in human beings, and in their case there was trouble in dealing with it, notwithstanding more favourable conditions. He thought there was little doubt that the cases were due to an organism in the blood, and of recent years a number of cases had been successfully treated by means of serum obtained by cultivating the organisms from the blood of the sufferer. It would be interesting to make some such experiment in the case of horses, and in view of the fact that research funds were likely to be available, he hoped this would be carried out. During recent years intractable cases in the human subject had yielded to serums provided in the manner described.

Mr. BAYLEY referring to rheumatoid tendonitis ventured to point out that the term rheumatism had been used with some laxity in connection with that subject. It would have been interesting to have had some definition of the pathology of a joint or a tendon which gave rise to that troublesome lameness which sometimes occurred after chest affections. A good few years ago when a pupil he remembered having these cases pointed out to him quite frequently by his principals. He seldom met with them nowadays. In fact he hardly remembered a case within recent years, although some few years ago he was dealing with large quantities of young horses drafted to London from the provinces and Canada that were the subject of all kinds of chest trouble.

Referring to the case of the horse that suddenly became very lame after having been at work for some time, such a history appeared to negative its rheumatoid origin. His own impression was that the lameness in these cases exhibited itself at the very outset of movement, and more or less passed off with exercise.

In regard to subcutaneous sarcomata some owners were apt to put simple but rather awkward questions. They might ask "how did my horse become affected with this dreadful cancerous disease; and was it dangerous to people?" Perhaps someone else would answer these questions. Further, did he understand that the whole of the growths that one saw in the photo were removed from this horse's skin by operation. If so, he presumed the disease was considered to be unlikely to recur; otherwise it would be putting the animal to unnecessary inconvenience—especially as the tumours were not painful and perhaps did not interfere with the harness. The case recalled one of his that presented very similar appearances but the nature of the complaint was different. It had been under treatment for many months, and the owner was becoming tired. The case turned out to be one of a vegetable parasitic nature; the animal was saturated with the suitable agent—really an antidote—and a perfect cure effected in a comparatively short period.

At the suggestion of Prof. Macqueen, and on his motion, seconded by Mr. McIntosh, it was decided to adjourn the discussion on Mr. Eaglesham cases until the next meeting.

A vote of thanks to Mr. Almond for his communication on "Dilated oesophagus in the region of the neck in horses," was then proposed by Mr. McIntosh, and seconded by Mr. Samson. This vote was passed by acclamation, when the proceedings terminated.

HUGH A. MACCORMACK, Hon. Sec.

SOUTH EASTERN VETERINARY MEDICAL ASSOCIATION.

[NATIONAL V.M.A. SOUTHERN BRANCH.]

The ninth general meeting was held at the Rose and Crown Hotel, Tonbridge, on 13th May. The President, E. Lyne Dixon, M.R.C.V.S., of Margate, occupied the Chair, and there were present Messrs. J. Crowhurst, Canterbury; J. Basil Buxton, Herne Hill; G. W. Dunkin, Canterbury; F. Warren, Hadlow; Percy Gregory, Tonbridge; Cecil Crowhurst, Maidstone; T. F. Hogben, Ash; H. P. Hogben, Folkestone; Charles Roberts, D. Reed Chalmers, Tunbridge Wells; J. M. Richardson, Deal; J. H. Ripley, Hurst Green; E. W. Morris, Uckfield; Elmer Ebbetts, Rochester; Wm. Caudwell, Chertsey; and Theo. C. Toope, hon. sec., Dover.

Messrs. J. C. Coleman (President of the Royal Counties), Hugh A. MacCormack (Secretary of the Central), and Mr. R. S. Stow, Hadlow, were present as visitors.

Letters and telegrams were received from the following regretting their inability to be present: Messrs. T. Hibbard, W. Shipley, A. T. Crowther, G. Fordham, H. W. Caton, Prof. Wooldridge, W. R. Emery, E. Morgan, H. C. Golledge, E. M. Perry, C. J. Callow, Major Edwards, J. C. Munby, W. Burt, J. B. Martin, F. G. Samson, J. Washford, A. H. Archer, R. Thrale, C. Morgan, T. A. Huband, A. Whicher, W. Clifford, David Pugh, W. W. Gulleford, J. B. Dier, and J. McIntosh.

The minutes of the last meeting were adopted as printed and confirmed. Mr. Toope explained the reason for the absence of much of the matter.

Mr. A. T. CROWTHER, Deal, was elected a member of the Association on the motion of Mr. Richardson, late of Deal, seconded by the Secretary.

Correspondence.

Mr. TOOPE: You will remember that at our last meeting the question of the National Congress and a subscription thereto was mentioned, and in order to go into our financial position, for it was impossible for me to then say what it was, it was decided to leave the matter over until this meeting, and also for another reason, to give the officials of that Congress the opportunity of replying to some letters written by Mr. Crowhurst, which I propose shall not be discussed again to-day. We had a Council meeting on Saturday week, and we came to the unanimous conclusion that we would entirely ignore subsequent letters from the Congress. We simply are treating them exactly in the way they have treated our late President. They have ignored his letters, and consequently the Council declined to do anything with regard to any future letters from them. I have another letter asking for a subscription from the Society, and also suggesting that if we elect a representative from the Society we should pay a guinea or one pound in addition. I think the Congress has become almost beyond reason in its begging attitude, and I believe the Council think so too.

The PRESIDENT: I regret very much, as a member of the Council, that owing to the way in which they have treated our late President we have felt bound to decline to have any official connection as an Association with the matter of the International Veterinary Congress which we were all looking forward to during this year. It does not, however, in any way prevent members individually of this Association supporting it, and I trust they will do so as far as lies in their power. It is the first time the National Congress has been held in this country, and I think we as a rising profession should individually endeavour to make it a success. Personally, I shall do so, and give my private subscrip-

tion, and I think it is only right to do so without going into the controversy which has taken place.

HUNTING PETITION AND SUBSCRIPTION FUND.

Mr. TOOPE: The President of the Royal College of Veterinary Surgeons has asked the President of each Society to sign the petition on behalf of the children of the late Mr. W. Hunting, a very esteemed member of the profession, and whose death has caused a great loss to us.

It was decided that the President should sign the petition.

PRESIDENTIAL ADDRESS.

Mr. E. LYNE DIXSON.

Gentlemen,—This being the first occasion upon which we have met since you unanimously appointed me President of this Association. I have pleasure in adopting the usual course at meetings of this kind by addressing a few remarks which I trust will be of interest: but before doing so let me again thank you most sincerely for the honour conferred upon me, and the confidence reposed in me by your selecting me as your President. I assure you I will endeavour to carry out the important duties appertaining to the office with honour and dignity both to myself and the Association I represent.

With your permission it is my intention first to take a general retrospect of the S.E.V.A. and the work accomplished since it came into existence. Our Association was formed on Jan. 31, 1912, at a meeting of veterinary surgeons of the County of Kent, convened by our worthy Secretary, Mr. Toope, as a result of a private conversation between him and Mr. James Crowhurst, of Canterbury, who was ultimately our first President. Both these gentlemen thought a meeting of veterinary surgeons of the county should be called to consider the advisability of forming themselves into an Association, and whether that opinion was justified I will leave you to judge by the subsequent course of events. Mr. Toope then wrote to every gentleman on the Register in the County asking his opinion, and from the very encouraging nature of the replies, he resolved to at once call a meeting, which was held at County Hotel, Canterbury. There were present Messrs. James Crowhurst, W. H. Crowhurst, and G. Dunkin, of Canterbury; T. W. Cave, Ashford; Elmer Ebbetts, Rochester; F. C. Gillard, Folkestone; E. Lyne Dixon, Margate; F. T. Hogben, Ash; T. A. Huband, Wrotham; T. Hibbard, Gillingham; the late R. Roberts, Tunbridge Wells; and T. C. Toope, Dover. Mr. J. Crowhurst was unanimously elected President, and Mr. Toope, Hon. Sec. and Treas. Four Vice-Presidents were also elected, and the business of the meeting duly commenced. First the question of fees was discussed, and great dissatisfaction expressed regarding them. It was then resolved to invite all veterinary inspectors in the County to attend the next meeting whether they cared to join the Association or not. Thus began the first organised attempt to better conditions in Kent, which, having been carried to a successful issue during the first full year of the Association's existence, after an immense amount of clerical work on the part of our Hon. Sec., more especially in ascertaining and tabulating the fees paid by all the counties throughout the United Kingdom. It was then carried on by Mr. Toope to the National Veterinary Association's meeting at Manchester, who adopted the scale provisionally (practically without alteration) after its re-consideration by a special Committee of the Southern Branch of the Association. From there it was circulated amongst all the affiliated societies in the kingdom, as a basis for negotiations to local authorities, with the result that in very many instances their fees have been largely augmented, Kent having the undisputed credit of pioneering the good work.

Commencing with 12 members we finished the year with 40 in number, which was increased to 57 during the past year. We have to deplore the loss of two eminent members, viz., the late Mr. Wm. Hunting, London, and Mr. R. Roberts, of Tunbridge Wells, both of whom had gained the esteem and respect of the whole of the members of the veterinary profession. Mr. Roberts was one of the founders of the Association, and was a gentleman whom we could ill afford to lose, and he was a regular attendant in our midst.

Much of the success of this Association is undoubtedly due to the inception of the Veterinary Inspectors' Section, held prior to our general meetings, to consider matters of interest appertaining to their duties, and I would suggest that other societies would do well to follow on the same lines.

The next important subject taken in hand by the Association was the absurd fees paid to veterinary surgeons by insurance companies. After a great deal of discussion a scale of fees, prepared copies of which were submitted to other Societies, and generally met with approval. The same course was then adopted as with veterinary inspectors' fees for municipal and county work. They were submitted to the Southern Branch of the National by our Secretary. A special committee was appointed to revise them. The revised scale was brought before the General Council, who adopted them and empowered the Sub-committee to further act, with the result that in a few days now all members of affiliated societies will be advised to accept nothing less than the prescribed scale of fees. The long delay in this matter has been almost entirely due to the policy of procrastination the insurance companies adopted, which necessarily entailed a lengthy correspondence, but will eventually be a source of monetary gain to a large number—if only members of the profession will be true to themselves, and to those who have worked in the matter, by absolutely refusing to accept remuneration only on the scale recommended.

Another innovation at the later meetings held by this Society was the introduction of interesting pathological as well as microscopical specimens. Papers and addresses have also given food for discussion during the past year, amongst which were the President's (Mr. Crowhurst) Presidential address, a paper by itself on "The Relationship of the Board of Agriculture to the Veterinary Profession," Mr. Elmer Ebbett's paper on "John's Disease, a *resumé* of the Tuberculosis Order," which elicited much discussion, and we had a very interesting paper by Mr. Caudwell—"Notes on Twenty Cases of Tuberculosis," also a demonstration by Mr. Buxton at our Maidstone meeting, showing the method of isolating bacillus of tuberculosis in milk, for which the thanks of the Association are due.

Eight general meetings have been held, and as many committee meetings, the average attendance being 16 the first year and 26 the second year. Ladies have been present at both our annual dinners, and one of our summer meetings, which is now to become a regular custom. Socially this has been no unimportant element in our success. Apropos of this subject, I may say in passing that the Committee have decided to hold our next meeting at Margate in September next, and as your President I trust I shall have the pleasure of welcoming and entertaining as many of the members and their lady friends as can conveniently attend on that occasion.

In concluding our retrospect of the Association I should like to allude to the financial aspect. Our expenses are somewhat heavy, but our Secretary informs me that there is a balance of £14 or £15. I must also allude to the support of members from East Sussex and Surrey. I trust they will not only continue to support us Kentish members, but endeavour to induce other practitioners to do the same, and so by an accession to

our ranks the name of our Association, viz., the South Eastern Veterinary Association, may be truly and amply justified.

I trust I have not wearied you by this *resumé* of the work which our Association has accomplished. Personally, I consider it a source of pride and congratulation that out of such small beginnings, but a short two and a-half years ago we should have attained the satisfactory conditions we have to-day. To what cause can this state of affairs be ascribed, and to whom is the credit to be given? I am of opinion that it is due to two causes. Firstly, to the members of the Association themselves who have so loyally and in such numbers attended our meetings, many at long distances and at great inconvenience, and thus showing that they take an active and lively interest in the Society's welfare. It is only by enthusiasm and whole-hearted loyalty to ourselves and to each other, with a watchful and jealous eye on the interests of this Association, that we can hope and expect it to prosper. Let us not content ourselves with standing still and being inert because we have succeeded beyond our expectations, but let us continue, each one individually, to make the further success of our meetings assured, and this we can do by:—

Firstly. Regular attendance as far as possible, at our gatherings, even if at the sacrifice of our personal convenience.

Secondly. By bringing forward records of interesting clinical cases for the instruction and information of our professional brethren, and

Thirdly. By cementing the good fellowship that should, and I believe does exist amongst the individual members, and which but for the formation of this Association, would never have existed.

Now what is the second cause of our success? I say without fear of contradiction that it is in a very large measure due to the unequalled energy, grit and perseverance thrown into his work by our Hon. Secretary, Mr. Toope. His secretarial abilities are so patent to those who observe, that it is needless for me to enlarge on them, but let credit be given where credit is due, and I say, we as an Association are indeed fortunate to possess a secretary so painstaking, thorough, and enthusiastic as Mr. Toope, and I take this opportunity of thanking him on behalf of the members of this Association for the prodigious amount of work that he has done so willingly and ungrudgingly since its inception.

Gentlemen, we are on the eve of the election for members of the Council of the R.C.V.S. and Mr. Toope, our Secretary, is a candidate, and having gone into this matter of representation on the Council, I wish to draw your attention to the following facts which are approximately correct. In the counties South of the Thames (excluding London and its immediate district), there are 425 practitioners represented by two councillors. In the counties represented by the Southern Branch of the N.V.A. there are about 800 exclusive of London, represented by four councillors, viz.: Messrs. Burt, Dunstan, Shipley and Banham. This number constitutes over one-third of the whole of the members residing in the United Kingdom. Yorkshire numbers 184 members, represented by six councillors; Lancashire 186 members represented by four councillors, and a would-be fifth. London, with immediate district, 229 members with eleven councillors.

Surely, gentlemen, this cannot be held to be a fair representation! Of the six Yorkshiremen, five are, I believe, members of the Yorkshire Society, and four actually live in or close to Leeds. My idea is that every separate Society should return at least one member, unless exceptionally large, then two. The reason for the excessive number in the North is the excellent organisation of the Societies, and every credit is due to

those gentlemen for the interest and zeal that many, from my own personal knowledge and observation, take in the welfare of their profession. But that is not the point. It is merely a question of fair and equitable representation, and I appeal to not only members of this Association but to other Societies to support the candidature of our friend and Secretary, Theodore Toope, who is an enthusiastic worker, and who will look after the interests of the rank and file of the profession, more especially the country practitioner.

I have dealt so lengthily with taking a retrospective view of our Society and its work, that I fear I can devote little space to a prospective point of view; but I feel bound to allude to what appears to me to be a few important matters that might mutually be discussed to our general advantage. They are: Exemption from serving on Juries: Rebate of the Petrol Tax: Discussion on whether some means could be found to minimise, if not put an end to, the lamentable differences of opinion that occur in our Police Courts. It is a matter I feel very strongly upon, because in many cases (and I am not referring to those where possibly genuine differences of opinion may exist), but to those where there are one or perhaps two, veterinary surgeons on each side swearing diametrically opposed opinions on even the question of whether a horse is lame—one side saying a horse is lame and unfit for work, and the other side that he is sound and fit for work. I say this should not be, as there is only one conclusion to come to—either wilful misrepresentation or lamentable ignorance of the very elementary details of their profession. It therefore behoves us as a Society, should such glaring example come before any of its members, to bring the matter forward for discussion.

I well remember a County Court case I was on, in conjunction with another veterinary surgeon, we appearing for the plaintiff (who had purchased a horse from the defendant) for the return of money paid for an animal warranted, which had a side-bone. The warranty was written on receipt and admitted. There were two veterinary surgeons on the other side, both of whom swore there was no side-bone and that the animal was sound. The Judge summed up shortly in these words, "This is a case where the warranty is admitted, but we have two veterinary surgeons on each side swearing diametrically opposed opinions as to soundness, and I have therefore to decide which in my opinion is speaking the truth. I therefore give a verdict for the plaintiff with full costs." Gentlemen, comment is needless.

There are many other questions I could touch upon which are all important to us as veterinary surgeons, but we have now the pleasure of listening to Mr. Morris's paper. "Immunity as it affects the Provincial Veterinary Surgeon." After which I invite discussion, should time permit, both on the presidential address you have listened to and on Mr. Morris's paper for which we thank him in anticipation.

I must now gentlemen, thank you for your patient hearing, and trust some little instruction and information will be gained as a result of the discussion which I trust will follow.

Mr. TOOPE: I think it is my duty first of all to thank Mr. Dixon for his high praise of me as Secretary. I feel I cannot resist the temptation to rise at the first moment. I scarcely think, perhaps, I am quite worthy of all he has said. I have done my best, and I shall continue as long as I can to justify the position I hold. That is if you will have me. There is another matter which I wish to allude to, and it is the candidature for the position on the Council. I may say, as you all know, last year we had the same views as we hold to-day. It is that the country practitioner is insufficiently represented. We proposed our late President, Mr. Crowhurst, and we did our level best as a Society, and

personally I did the same to secure his return on that occasion. This year we again proposed him at the last meeting but, unfortunately, Mr. Crowhurst was then in family trouble, and unable to continue his candidature, and at the last moment practically, I was asked to take his place as being long associated with him in this matter of inspectors fees and insurance fees. I shall in this case be associated with Mr. Coleman, of Swindon. He and I have similar views on most things connected with the profession, and personally, I am quite sure whether he goes first, I shall be near him as a second. If I tackle the thing I am pretty certain he will second it in the same way. If we were as well organised as Yorkshire and Lancashire, we should return a member for every Society, say two, in the South of England. What it wants is organisation. I must thank Mr. Dixon again for the kind allusion he has made to me as Secretary and Treasurer, but I cannot quite forgive him for he has repeated it two or three times. Those who vote for me I trust will also, I hope, vote for Mr. Coleman.

Mr. CROWHURST: I think I too have a duty to you to thank you for your kindness in recommending me as a candidate for the Council of the R.C.V.S. At the time I did say I would stand for election, but, as it has already been stated, I met with a sad affliction in my family, and there were also other reasons. I felt that there was some antagonism in consequence of this unpleasant matter in connection with the National Congress, and I felt that if I succeeded in gaining the position of honour you were willing to offer me, there would be some antagonism in the Council in consequence of this, and the unpleasantness would not be conducive to the interests of the profession or the Association. I hope most earnestly we shall do our utmost to get Mr. Toope returned.

The PRESIDENT: I wish to refer to the question of the forthcoming election. We have met Mr. Coleman for the first time to-day, and I think it is right that we, as an Association, should do as Mr. Toope suggested. It does not matter so long as we get well represented. If we couple Mr. Toope with Mr. Coleman, and Mr. Howard of Ireland, and ensure that they get in, we shall be doing the right thing. I can see that Mr. Coleman is a man who can express his views, and is not afraid to express them. They are the sort of men we want.

Mr. COLEMAN: I would like to tell you that for the last twenty five years I have been particularly interested in public health matters in urban, county, and borough departments. It has been my ambition to bring veterinary surgeons to the fore front on every occasion. At a Congress at Bristol in 1906 a resolution was proposed that sanitary inspectors should be employed for the inspection of public abattoirs, and I was the only veterinary surgeon present who proposed an amendment to the effect that it should be done by veterinary surgeons, and my amendment was carried. You may rest assured if I have the honour of being elected, my sole object will be to improve our present professional and social status.

Mr. CAUDWELL proposed a hearty vote of thanks to the President for his interesting and comprehensive address.

Mr. ROBERTS seconded

Mr. CROWHURST: I should like to speak in support of that. Mr. Dixon brought a very weighty matter before the profession wherein he has shown us that we can do a great good to our profession by being more careful in the opinions we express in Court. A disparity of opinion in police court cases brings but very little credit to the profession. I hope that one and all will take it to heart. There is room for considerable improvement in these matters of court business. It is

one in which we are held up to ridicule by judges, and it should not be.

Mr. CHALMERS: I am quite in sympathy with Mr. Crowhurst. It makes my blood run cold when I read in the newspapers of one veterinary surgeon cross swearing another. I am pleased to say that in this district we have no trouble in that way. The jury often is a very serious one. It is a great waste of time, and there is no remedy whatever.

Mr. CROWHURST: I would rather be judged by my brother professionals at a meeting like this, because they would understand the difficulties. A judge's knowledge is only book learning. He really cannot understand the same as a veterinary surgeon. Justice would come out of it very much better, and it need cause no friction at all.

The HON. SEC.: When this Association was formed it was one of the duties specially given to the Council to discuss such cases, and we should have adopted this system had we the opportunity of carrying it out.

The PRESIDENT: I take it the best thing would be for some one at a future meeting to put it on the agenda for discussion, and take some definite and proper action as to what we can do.

BALANCE SHEET.

The TREASURER: At the present time we have a balance in the bank of £14 17s. 10s., and we have outstanding about £6 6s. The balance has been enhanced and the outstandings considerably reduced. The result of two years' working leaves us a balance in hand of practically £20.

INSURANCE FEES.

The HON. SEC.: Nearly two years ago we started a discussion on the fees of the insurance companies. The National Association appointed a Committee for the purpose of dealing with it. They met three or four times and eventually drew up a scale of fees which we submitted, first to the National Association who referred consideration of details to the Council of the National Association and a Committee who had power to act. So that what we have done now is practically the action of the National Veterinary Association as a body. I have had considerable difficulty in dealing with the companies. Their method has been one of procrastination throughout. I have not only had correspondence with various insurance companies, but I have seen two or three managers, and this is the outcome of all our work and all our efforts. A conjoint offer of 4/- for the examination of any horse and report, value £100, with an additional 2/6 for a second one, and half that sum for cattle, with a maximum of £2 2s. for 20 head, all mileage and other charges to be included. That was absolutely rejected by the Council of the Association and they have drawn up the following scale which I ask this Association to adopt. [*This scale is set out on p. 755*]. Since then they have been ratified by the Council of the Association. We want to make it a universal system, and they are somewhat less than the fees we first suggested. It is for us, as we have taken the lead in this matter, to keep it, and I propose that we to-day accept this particular scale. I know this will not be acceptable to all. We have absolutely declined to accept less than 5/- in any case instead of 3/-, which we get now. We can enforce these fees in a very quiet way, and the beauty of it is they know it. We have only to transfer any business we have with the Manchester and Underwriters' Association, and we shall immediately force other societies to accept, or the Manchester and London Underwriters' Association will get practically the whole of the insurance business in Britain.

Mr. WARREN: I second the proposition, and quite endorse what Mr. Toope has said,

Mr. CAUDWELL: We are not all members of the N.V.A., but those who are members of it should adopt the fees suggested. There are no doubt plenty who will regard 3s. as worth earning when looking for a further source of income.

Mr. CROWHURST: The Manchester Underwriters are ready to accept the work at a better fee altogether, and why not recommend the clients to go to them and ensure there. I know of a case where an unqualified man was sent to examine a horse and it died, and the Insurance Company refused to pay any compensation because their rules had not been complied with by employing an unqualified man. I think if we accept this scale of fees as a beginning, it will be a great improvement on the past, and you are not bound to go on if you find you can get better terms.

IMMUNISATION AND THE COUNTRY VETERINARY SURGEON.

By E. W. MORRIS, M.R.C.V.S., Uckfield.

Mr. President and Gentlemen,—The idea of fighting bacterial infection by those defensive agencies which the organism itself employs when it contends with an invasion must be a sound one, but the question I want to discuss with you is—Is it possible for the country veterinary surgeon to employ these methods in his every-day practice with safety? I think it is, in those cases of localised bacterial infections which are of such a nature that the clinical observer can immediately see for himself or learn of every change in their condition.

The most typical examples of such infections are poll-evil, fistulous withers, abscesses, and wounds where chronic conditions exist.

I have no doubt that a good many of us have come to the conclusion that antiseptics are not effective in stopping bacterial infections. Antiseptics can only take effect upon those bacteria with which they come in contact, it is obvious that the infecting bacteria will not all be lying on the surface, and it is unreasonable to expect to kill them all, a residue will survive, and multiply and reoccupy the disinfected surface. The antiseptic also directly acts against the protective forces which the organism has at command—it will paralyse the phagocytes and abolish the anti-bacterial power of the blood fluids, it will injure the tissues, especially the capillaries, and will thus lead to an outpouring of lymph which will wash it away.

If we believe this we must look round for something better; it is no good adopting the expectant treatment of sitting down and waiting for auto inoculation, as in localised bacterial infections this does not take place, the focus of infection being more or less cut off from the circulating lymph by infiltrated tissue; and it is only perhaps when life itself is threatened that Nature addresses herself in a serious manner to the task of immunisation.

Let us first consider the protective forces of the organism. The leucocytes are capable of ingesting bacteria, and disintegrating them by intracellular digestion.

Sir A. E. Wright distinguishes between spontaneous and induced phagocytosis. The former term is applied to that process of digestion which comes under observation when bacteria which have not been subjected to the action of the blood fluids are brought in contact with washed leucocytes in an indifferent medium, such as weak salt solution. It is a slow process, only a few bacteria being digested, and the digestion is irregular, the leucocytes differing very largely in their intake of bacteria. It is completely stopped by a 1% solution of salt—in the case of the tubercle bacillus at any rate.

Induced phagocytosis is strikingly different. Here leucocytes are brought in contact with bacteria which have been, or are subjected to the action of the serum. It is an exceedingly rapid process; every adult leucocyte assists—will fill itself to absolute repletion, and will continue to do so even in salt solution which would stop spontaneous phagocytosis.

The anti-bacterial elements of the blood are assumed to be four in number.

Bactericidins kill the bacteria without dissolving them.

Bacteriolysins kill and dissolve them.

Agglutinins clump them up together in the presence of salt.

Opsonins so alter them that they are easily ingested by the leucocytes.

Of these four the opsonins are the most important, because either in normal or immune blood they affect every kind of bacteria, and they can be accurately measured whether they be increased or reduced. We now know that the increase of these opsonins is correlated with clinical improvement.

In cases where we know the infecting microbes and the required vaccine, and when the proper dosage has been worked out and made known, treatment by vaccine may be undertaken successfully with no more technical skill than is required for the administration of a dose of arecoline. But unfortunately, in most cases the nature of the infection is uncertain, and any bacteriological examinations must be continually revised, as new microbes may invade the wound and those originally present may disappear.

Assuming we know the required vaccine the required dose is again a difficulty to the country veterinary surgeon. Sir A. E. Wright regulates the dosage by taking an estimate of the opsonins in the blood; this estimate he calls the opsonic index.

1. Where an examination of the patient's blood taken 24 hours after inoculation shows that this index is considerably reduced too large a dose has been given.

2. Where an examination of the blood 24 hours after inoculation shows that the index has been raised, and where after the expiration of a week the index has fallen back to what it was before inoculation, too small a dose has been given.

3. Where, in association with a slight initial fall after inoculation, the index is after the expiration of a week found to stand higher than it was at the outset the proper dose had been administered.

This is no good to the country veterinary surgeon, but, as we have said before, a rise in the opsonic index is correlated with clinical improvement, and *vice versa*.

Now apply this, let us say, to a case of poll-evil. Taking the first case, where too large a dose has been given, at 24 hours the animal would be disinclined to feed, the head would be carried more stiffly than usual, the internal temperature raised a degree or two, there would be an increased discharge of pus from the sinus and this pus would be thinner than before.

In the second case, where too small a dose has been given, there would be no constitutional disturbance, the discharge would be less and thicker, but things would be soon back in the old place again.

Where proper dose has been given, first there would be a slight rise in the internal temperature, the animal would probably refuse one meal, or some of its food (I had one horse that always refused it hay at night when injected at midday), the discharge from the sinus would increase and become thinner, at 24 hours it would be flocculent, gradually getting thicker and less abundant, the movements of the head would be more easy, and appetite improve. This general improvement should be maintained by another dose of vaccine in a week.

It is one thing to assert that it is very often possible for the immunisator to be able from the clinical symptoms to obtain information which will assist him in selecting his doses and interspacing them. That such help can be obtained is a self evident truth, but that these symptoms will in every case inform him whether the proper quantity has been given is quite another thing.

In the clinical result we have only the terminal event in a long and intricate chain of causation, and whether the result is improvement or the reverse it is due to many factors of which the achievement of a satisfactory immunising response is only one; it would profit a patient nothing to have responded to an inoculation by an elaboration of anti-bacterial elements, if from any cause the antibacterial agencies which were at disposal in his blood failed to reach the invading bacteria. Nor would it profit the patient anything in his struggle with disease if his machinery of immunisation responded to every call while some other essential part of his physiological machinery gave out.

The bacteria usually associated with chronic suppurating conditions like poll-evil are first staphylococcus albus, but my observations lead me to believe that in all old standing cases we have secondary infection with staphylococcus aureus and citreus and streptococci; so why not begin with the mixed vaccine? Of course it is probable that the best results will follow the use of a vaccine made from the individual patient, but stock vaccines give good results, and can be tried or used until an autogenous vaccine can be obtained.

The initial dose should contain five hundred millions of staphylococci and one hundred millions streptococci; their origin should be from the same species of animal as the patient, and the vaccine should be polyvalent. It should be injected near or around the focus of infection.

No advantage is reaped by piling one inoculation upon another, with the idea that it must be possible to achieve a greater yield of protective substances by employing successive doses of vaccine increasing enormously. Such a system if persisted with must end with disaster. Never advance to a larger dose until it has been ascertained that the dose which is being employed is too small to give adequate immunising response. Five to eight days seems about the time that should elapse between the inoculations.

Again taking poll-evil as an example, let us see the conditions present. Leucocytes disintegrate in the focus of infection—and they will die and disintegrate not only under the influence of bacterial toxins which are generated, but independently of this there will be liberated larger and larger quantities of tryptic ferment until finally the antitryptic power which the lymph possessed when it transuded from the blood vessels is overpowered, the connective tissue breaks down, any fibrin which envelopes the leucocytes is dissolved and an abscess sac formed; the fluid, which is more or less shut off from the circulating lymph by infiltrated tissue, forms a nidus for bacterial growth. In these circumstances the lymph in the abscess sac, which originally possessed anti-bacterial and antitryptic properties, becomes first impoverished in anti-bacterial elements, then loaded with bacterial products, and finally endowed with tryptic properties. It will be clear that fresh leucocytes, should they arrive on the scene and escape paralysis by bacterial toxins and digestion by the tryptic ferment, find no opsonic substances in the abscess to co-operate with them.

The pus fluid will now proceed to eat into the surrounding tissues and, owing to the anatomy of the part, burrow in depth before it points upon the surface or is opened, and eventually we have a sinus discharging pus. The pus in such a case possesses a low opsonic power,

it is charged with bacterial toxins, contains a tryptic ferment, and often from the nature of the part it cannot be properly drained.

Now we are aiming at the destruction of bacteria by the agencies of opsonins and leucocytes, and also aiming at the same time at the safeguarding of the tissues from the digestive action of the pus. It would be futile to attempt this task without making provision for the replacement of the tryptic and non-opsonic pus fluid by antitryptic and opsonic fluid freshly derived from the blood. We know that a deficient flow of lymph and the formation of fibrin on the walls of a sinus favour the survival of the infecting bacteria, so these conditions should be combated by the introduction into the sinus of a solution of salt and citrate of soda. The citrate of soda prevents the coagulation of the lymph, and the salt solution by osmosis causes fluid to transude from the blood vessels. Under this application clear lymph wells out, and local conditions improve.

Every now and then this treatment should be stopped for a time so that improvement, or the reverse, can be more easily noted. The only antiseptic used in these conditions should be weak boracic acid solution.

Don't think I am condemning all time honoured modes of procedure. Sometimes the intelligent use of a probe-pointed bistoury, or one caustic application to slough out the bacteria laden walls of the sinus may be necessary to bring about the condition I require, and of course any dead tissue must be removed.

In other cases of bacterial infection—local infections, hidden from clinical observation, or those grave septicæmic infections where vast auto-inoculations are going on, how is it possible for the country veterinary surgeon, in the absence of laboratory methods, to undertake vaccine therapy without courting disaster?

However, upon the country veterinary surgeon of the future, when he shall have been trained in the physiology of immunisation as he is now trained in the physiology of the circulatory and digestive system, will devolve the task of directing such antibacterial agencies as may be available in the patients' blood to the destruction of microbes in local infections. When he comes to regard it as his function to minister to immunisation he will not, in the case where he has to deal with infiltrated and infected tissues, stop short at mere incision and drainage, but will work to secure that free lymph flow through the focus of infection which is essential to immunisation. When he has to deal with a suppurating focus he will not rest satisfied with evacuating pent-up pus, but will recognise that such evacuation contributes only to the extinction of the infection in such measure as it serves to bring the antibacterial agencies of the blood into effective operation upon the microbes. And again, where he has to deal with a wound which refuses to heal, or with a wound which is pouring out day by day a wholly ineffective pus, he will realise that what is required in such a case is an increase of the antibacterial power of the blood and a more effective lymph flow, such as would bring the antibacterial agents of the blood into active operation upon the infecting microbes.

We must anticipate that the methods of increasing the antibacterial power of the blood will be constantly improved while better methods of measuring those antibacterial elements will be devised. Meanwhile we have gone far enough to see that we have the power of increasing the antibacterial elements of the blood by the agencies of vaccines.

I have quoted the author of this treatment, Sir Almoth E. Wright, consciously, unconsciously, and subconsciously, and I think the debt we owe him as veterinary surgeons is as great or greater than that we owe to Lister. The debt we owe him as human beings is so great that I will not attempt to compare it, because, as he says, "the really serious ills of life are those

various localised bacterial infections which sooner or later fasten on every man, never afterwards releasing their hold."

A very interesting discussion ensued in which Messrs. Buxton, Warren, Duncan, Hogben, Gregory and the Secretary took part. (This was altogether too technical for my reporter. T. C. T.)

Mr. MORRIS said in reply: I am apparently attacked on three points—1st, Mr. Buxton states it is not necessary to inject the vaccine near or around the focus of infection, although he states it can do no harm there. I will tell you Sir A. E. Wright's ideas on that point, and allow you to judge for yourselves. "A whole array of observations point to the local production of bacteriotropic and vaccinatropic substances generally at the site of inoculation. If we may build on the aggregate of these observations it would logically follow that the site of every inoculation deserves to be carefully considered," Mr. Buxton said it did not matter when such injections were made. I contend that when protective substances pass into the blood through a channel which does not lead them through the focus of infection, the newly elaborated antibacterial substances will come into operation on that focus *only after* they have become diluted by the whole volume of blood (if I may so express it) *up stream* from the focus of infection, that is in some part of the lymph watershed which drains through the focus of infection. The antibacterial substances which are produced at the site of inoculation come into application upon the focus of infection in a concentrated condition. Wright proves this by recording cases which only improved when inoculations were made near and around the focus of infection.

Mr. Dunkin and Mr. Warren discussed serum treatment, in which I do not place implicit faith. Sir A. E. Wright's ideas on sera may be summed up as follows: "No serum does much good unless there is a certain amount of reaction; immune serum of itself will not give any reaction. If it gives a reaction it contains bacterial toxins, so that it is a vaccine in reality and not a serum. The doses of the vaccine under the mask of a serum cannot be fixed because no two samples of such contain the same amount of bacterial toxins, and some none at all, hence most all will eventually be replaced by vaccine.

The third point: The tryptic properties of pus are proved conclusively, and account for burrowing in poll-eil and other diseases.

One point now occurs to me, secondary invaders must be dealt with. Scott is insistent on this, and with him I agree. Therefore use a mixed vaccine and try to kill these off before they get established—prepare for them in fact.

The PRESIDENT: I desire to move a vote of thanks to Mr. Morris. We have received a good deal of instruction from the discussion which has arisen. [This was carried.]

The PRESIDENT: I also wish to move a vote of thanks to Mr. Crowhurst, our ex-President, for the able manner in which he has fulfilled the duties of office for two years.

Mr. MORRIS: I second that. Mr. Crowhurst was always willing to help everyone in every way.

This was unanimously carried.

Mr. CROWHURST: I have very great pleasure in accepting your good wishes in hearty response to the President. I have been amply repaid for anything I have done by the kindness and support I have met with from every member. I have sometimes spoken earnestly on questions brought forward, questions which have embraced many subjects, and I am glad to find that they have been taken up with zest and good will, and carried to fruition. I thank you very much indeed for

your kindness in every way, and I accept your kind proposition with the greatest gratitude possible.

The PRESIDENT: The next meeting is to be held at Margate in September, and I extend an invitation to yourselves and lady friends. I shall do all I possibly can to make you quite happy, and entertain you to the best of my ability.

In the Microscopic Section, Mr. Toope exhibited a milk smear from a cow suspected of tuberculous induration of mammary gland, but found to be due to streptococci in immense numbers. Smears from lung of cat showing tubercle bacilli, also smear from lung of horse showing tubercle bacilli, and others. Several interesting post-mortem specimens were also exhibited, including the pulmonary organs of a cat showing miliary tuberculosis in the varied stages. This being the third cat in the same street that came under Mr. Toope's notice during the first half year found to be suffering from tuberculosis on post mortem. The milk supply in each case being from the same source suggests a common cause possibly, especially so as it had been found to contain tubercle bacilli some months previous.

A vote of thanks to the President closed the proceedings.

THEO. C. TOOPE, Hon. Sec.

ELECTION ADDRESSES.

To the Fellows and Members of the Royal College of Veterinary Surgeons.

Gentlemen,

I beg to offer myself as a candidate at the coming election of Council.

My views on veterinary politics are, I think, fairly well known to many, and I need not refer to them in detail; it is sufficient to say that I am a strenuous advocate of any measure which will tend to improve the status of the members of our profession.

I am strongly in favour of the Veterinary Surgeons Act Amendment Bill.

The wide field now opening in Veterinary Public Health is to some extent indicated in the Milk and Dairies Bill now before Parliament, and should you do me the honour to elect me as one of your representatives, I would at all times do my utmost to safeguard your interests.—I am, gentlemen, your obedient servant,

J. W. BRITTLEBANK.

To the Fellows and Members of the Royal College of Veterinary Surgeons.

Gentlemen,

At the request of the members of the South Eastern Veterinary Association, I am seeking your suffrage as a candidate for the Council of the Royal College at the ensuing election.

I am in favour of maintaining the educational standard of our graduates, and believe much time could be saved and increased efficiency in vital subjects obtained, without increasing the period of study by insisting on some of the minor elementary science subjects being made part of the matriculation examination.

I should favour any scheme brought forward to obtain State aid for our teaching schools, especially for research work, which in my opinion we should retain as far as possible.

Our financial position is alarming, and renders the Veterinary Surgeons Act Amendment Bill a pressing necessity.

If honoured by election any measure calculated to benefit the general body of the profession, will receive my support.

I am, gentlemen, very obediently yours,
THEO. C. TOOPE.

Death following the External Application of Kerosene.

The following case is reported in the *Australian Medical Journal* of February 7th by Dr. J. K. Adey. A man, aged 73 years, had been in an asylum for three years in consequence of senile dementia. An attendant noticed some vermin in the axillæ, into which he swabbed, but did not rub, kerosene. Some of the liquid ran down the patient's sides into his groins. The kerosene was not washed off and the patient was clothed in a flannel, a shirt, and outer garments, and was seated in a chair in the sun. Seven hours afterwards he was seen by one of the medical officers in a collapsed condition. Large raw surfaces extended from the axillæ to the groins and there was a raw surface in the lumbar region about 4 by 6 inches. Some of the kerosene evidently had run behind his back. The condition was one of superficial burns for which he was at once treated, but he gradually sank and died three days later. It is remarkable that kerosene, which is frequently used as an external application, should have caused such rapid denudation of the skin. The cuticle had peeled off the affected areas. The severity of the result was probably due to the clothes being put on over the kerosene, which prevented free evaporation and the heat of the sun seemed to have aggravated the effect. There seemed no possibility of the kerosene being contaminated as it was drawn directly from the tin supplied by the dealers. The necropsy showed that there was no internal lesion and that the patient, considering his age, was in good physical state.—*The Lancet*.

Personal.

Mr. WILLIAM PENHALE, M.R.C.V.S., has been elected Chairman of the Holsworthy Urban District Council for the third year by a unanimous vote.

SILVER WEDDING.

Mr. and Mrs. SYDNEY H. SLOCOCK, Springcroft, Montague Road, Hounslow, married at St. Stephen's Church, Hounslow, May 15th, 1889, by the Rev. Henry Layton, M.A., Vicar.

OBITUARY

Major William Martin-Millar, F.R.C.V.S., A.V.C.

It is with great regret that we have to record the sad death of Major William Martin-Millar, F.R.C.V.S., Army Veterinary Corps, at Lucknow, India, on the 25th April, 1914, from smallpox, after a very brief illness. The deceased was Divisional Veterinary Officer of the 8th Division and had been stationed at Lucknow since November, 1913. He landed in India on the 2nd Jan., 1912, and would have completed his present tour of foreign service on the 2nd Jan., 1917.

Major Martin-Millar was popular with all ranks, and had made many friends during his 18 years service in

the A.V.C. He was a keen veterinary practitioner and an exceptionally good judge of horses.

He was buried at Lucknow on the 26th April with the full military honours of his rank. The funeral was attended by almost every officer present at the station. Wreaths were sent by all the regiments and units forming the Lucknow garrison, and by a large number of friends, officers, non-commissioned officers, and men.

Major Martin-Millar was born on the 12th Jan., 1867, joined the A.V.C. on the 26th Feb., 1896, promoted Captain 25th August, 1903, and Major on the 7th Dec., 1911. He was educated at Dublin University and the Royal Veterinary College, Camden Town, becoming a M.R.C.V.S. on 16th May, 1895, and a Fellow of the same College on 18th May, 1907. He served in 1902 in the South African war, receiving the Queen's medal with three clasps.

CHARLES WARD, M.R.C.V.S.,

Graduated, N. Edin: May, 1890.

Mr. Ward died on May 11th, at Church Stretton Salop, from cancer of the bowel. Aged 44 years. [Name removed from Register in 1902 under Sec. 5 (4) of the Act].

CORRESPONDENCE.

TREATMENT FOR SCLEROSTOMUM ARMATUM.

Sir,

Capt. Graham Rees-Mogg might try intravenous injections of atoxyl for the sclerostomes in his gelding. As a rule I have found the usual internal treatment effect a cure, but in a number of cases that have not responded to internal treatment, and became much emaciated, I have found atoxyl very effectual. Chief Veterinary Surgeon Brochberg, in an article reproduced in *The Veterinary Journal* some years ago, speaks highly of this agent. He says: "The 32 foals that recovered were treated with atoxyl with quick result, and all recovered, though very ill. After daily injections, living sclerostomes soon disappeared from the dung. The atoxyl was given partly intravenously and partly subcutaneously in large doses, increasing from 0.2 gm. to 0.5 gm. In individual patients up to 1 gm., and in one goat 1.5 gm. was reached. The commencing dose was:

R Atoxyl	} a.s. gm. 0.2.
Sod. Chlr pur	
Aq. dest.	

gm. 20.0.

I have not yet found the maximum safe dose, but have given three and four times the above amount to two and three-year-old Clydesdales for a week and ten days without toxic symptoms being shown.—Yours truly,

JOHN BROWN, F.R.C.V.S.

Invergordon.

THE MILK AND DAIRIES BILL.

Sir,

The text of the Milk and Dairies Bill at present before Parliament is now available, and as a measure closely affecting the future of our profession will repay careful study by those who care to obtain a copy.

The Bill is very far-reaching in general, and carefully administered should effect much. A particularly gratifying feature is the apparently common cause made by the two Government departments, the Board of Agriculture and Fisheries, and the Local Government Board, the existing position being most unsatisfactory for all concerned.

One or two clauses may require amendment, but my conclusions after hurriedly scanning the provisions of the measure are, that it will provide an enormous new field of work for veterinary surgeons, and generally speaking the Bill should receive the hearty support of our profession.—Yours faithfully,

J. W. BRITTLBANK.

Manchester.

NATIONAL ASSOCIATION OF VETERINARY INSPECTORS.

Sir,

In the report of the proceedings of the Royal Counties Association meeting printed in your last issue, a Mr. Toope, in advocating the formation of a Veterinary Inspectors' Branch of the Society, is reported to have stated that the National Association of Veterinary Inspectors was "practically *non est*," and that nothing appeared to have been done by them.

Judging by the consistency with which Mr. Toope has advocated "the formation of a Veterinary Inspectors' section of each Society throughout the South and East of England," without even mentioning the existence of the N.A.V.I., I am inclined to think that his obituary notice of the latter is a case in which the wish is father to the thought.

The expediency of forming a number of small sectional Societies of Inspectors, as opposed to an Association embracing the whole Kingdom, is apparently believed in by Mr. Toope, but I strongly object to his statement that the National Society has ceased to exist simply because he chooses to ignore it.

I freely admit that there are a few members of the Society who may have legitimate cause of complaint that their enquiries have not always received prompt answers, Mr. Toope, however, is not of their number, for he has never even replied to a most important communication addressed to him, affecting the interests of members—and he a Vice-president too.

Mr. Toope is perhaps not aware of the amount of work entailed in drawing up the schedule of suggested fees, circulating and tabulating the same, but it would be interesting to learn how he reconciles his statement that we "have done nothing," with the fact that the exact schedule as suggested by the Association has been adopted by the

majority of local authorities, the returns from which are available.

The utility of an Association such as ours, established for the purpose of furthering and protecting the interests of its members, cannot be assessed by the amount of material which is published. It was further never intended to hold frequent meetings owing to the National character of the Association, the objects of which would be entirely defeated by any hurried or insufficiently considered action, pending the time when experience of the working of the Tuberculosis Order points out to us the proper path to follow, alike in the interests of the public and ourselves. For months we have known that an amendment of the Tuberculosis Order was promised, and it is now imminent, and the new Milk and Dairies Bill is before Parliament. The latter is a most momentous measure so far as the interests of the profession are concerned, and particularly to those who are inspectors, or who will be appointed inspectors in the large field which will be opened up to us, and I submit that in a Kingdom-wide Association of Inspectors lies the machinery for securing the full measure of recognition which we deserve, rather than in the formation of small societies of inspectors such as Mr. Toope so fervently advocates. In this connection I would refer your readers to the letter of Mr. Percy Simpson, read at the Royal Counties meeting, the contents of which I fully endorse.

If there are any members of the Association, other than Mr. Toope, who consider that the Society has done nothing to justify its existence, I would ask them, in the meantime, to withhold their criticisms. Illness and family bereavement of two of its chief officials have largely interfered with the work, the value of which all members will now be in a position to estimate almost immediately.—Your obedient servant,

TREVOR F. SPENCER.

Hon. Sec., National Assn. of Vety. Inspectors.

Kettering. May 20.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.		Out-breaks	Slough-tered.*
	(a)		(a)		(b)		(b)		(b)	(a)	
GR. BRITAIN.											
Week ended May 16	12	14			2	3	41	66	2	146	1546
Corresponding week in											
1913 ...	11	11			3	4	43	77	3	51	724
1912 ...	11	14			2	4	29	55		79	805
1911 ...	17	18			4	9			2	70	640
Total for 20 weeks, 1914 ...	368	394	11	74	36	82	1224	2209	142	1526	15620
Corresponding period in											
1913 ...	262	284			67	212	1393	2879	117	877	12619
1912 ...	435	489			67	145	1877	4207	159	1341	16860
1911 ...	392	482	1	18	82	234			296	933	10041

(a) Confirmed. (b) Reported by Local Authorities.
Board of Agriculture and Fisheries, May 19, 1914

† Counties affected, animals attacked: Essex 2, Oxford 1.

IRELAND.	Week ended May 16	3	43	Outbreaks	1	2	...	13
Corresponding Week in {	1913 ...	...	...	...	...	...	...	1	11	1	3
	1912 ...	1	1	...	...	...	...	...	2	6	74
	1911 ...	...	...	...	...	...	...	...	3	2	4
Total for 20 weeks, 1914		...	1	1	73	999	41	325	98	452
Corresponding period in {	1913 ...	...	...	...	...	...	...	83	278	62	381
	1912 ...	2	2	...	...	...	...	37	249	104	1002
	1911 ...	5	5	...	...	1	2	38	231	49	816

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, May 18, 1914
NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1351.

MAY 30, 1914.

VOL. XXVI.

THE POSITION OF THE R.C.V.S.

Next Wednesday is not Derby Day, and the annual general meeting ought to be better attended than usual. Although the Council election is unexciting, there is ample material for discussion in the report. The projected Charter, the new regulations for the Fellowship Degree, and those for the Diploma in Veterinary State Medicine, will all be open to debate. All these attest the desire of the profession for progress, while the financial portion of the report shows how seriously that progress is threatened by poverty.

Few, perhaps even now realise how rapidly we are drifting towards bankruptcy. Our expenditure has exceeded our income for six years past. At first the deficits were not great, and we met them by an overdraft at the bank in preference to selling stock. We first sold £1000 worth of Consols in the latter part of 1911, but so much of the proceeds went to repay the bankers that another £1000 worth had to be sold about May, 1912—just two years ago. To-day we are again faced with a banker's overdraft of some £140, and a third sale of Consols is imminent. Further, this year's annual report states that the total excess of expenditure over income for the last six years is £2053 18s. 3d., and that over a quarter of that sum is accounted for by this year's deficit of £534 5s. 2d. This shows the rate at which we are moving. Probably we may expect another sale of Consols before the end of 1915, and after that they will become almost, if not quite, annual events.

Of course the passage of our Bill would put an end to all these money difficulties. But the Bill was first introduced to Parliament in 1911, and is now before the House for the fourth time. In previous years its chances of coming up for second reading have never been very good; and this year it has practically no chance at all. Given good fortune at the ballot, it may become law next year. On the other hand, under the present Parliamentary conditions, another four years or much more may elapse before it even obtains a hearing in the House—and not many years will bring us actually face to face with bankruptcy. It seems quite possible that, after all, the Council may soon be forced to ask for voluntary subscriptions—not, of course, as an alternative to the Bill, but simply to keep the College afloat until the Bill is passed.

FRACTURE OF ARTICULAR EXTREMITY OF SCAPULA.

I enclose two photographs of the articular extremity of the right scapula of an Artillery horse with the tuberosity knocked off and broken into three pieces, two of which had become joined by the usual method of healing. The junction between the two resulting pieces and the scapula was simply by cartilage: the tuberosity being considerably larger than normal though not appreciably so during life.

The remarkable thing about it is that the horse was in hospital for only 35 days in February—March, 1913, with it; the cause of lameness was then described and diagnosed as a sprain of the biceps muscles. Since 14th March, 1913, the horse has been regularly at work, and during the drill season of 1913-14 marched for practically three months, which included one practice camp. The horse was seen to be lame again at the annual casting; an arthritis of the shoulder joint (a thing rather common) being suspected, the animal was cast and destroyed.

C. E. STEEL, Capt., A.V.C.
Divisional Vety. Officer, 3rd (Lahore) Divn.,
and in charge Station Vety. Hospital.

ANTHRAX AND EMERGENCY SLAUGHTER.

A short time ago I received a message from the Abattoir that the carcass of a cow had been brought from a farm in a butcher's float and while being dressed in the slaughterhouse set apart for such cases, the meat inspector saw suspicious signs, and suspended further dressing until I had seen it.

On examination, I found that the bowels were filled with a bloody fluid, and in the mesenteric fat there was a hæmorrhagic patch about three inches in diameter. There were small hæmorrhagic patches in the peritoneal surface of the carcass.

The spleen was *normal* in size and consistency. The muscles had a parboiled appearance. The blood, which had dripped from the head, which had been cut off and hung up, was *coagulated*. I made smears from the spleen and hæmorrhage and found numerous bacilli which were Gram positive. I concluded it was a case of anthrax and reported to the Board of Agriculture, and the case was confirmed.

It seemed to me that this case was worthy of record because the two most important characteristics of an anthrax carcass, viz., enlargement of

spleen and character of blood, were absent, and as many animals are killed "to save their lives," it is just possible that amongst them there are cases like the above, which, although condemned as unfit for human food, are not dealt with as anthrax carcasses.

ERNEST J. BURNDRED, M.R.C.V.S., D.V.H.
Blackburn.

ABSTRACTS FROM FOREIGN JOURNALS

STUDIES UPON SWINE FEVER—THE SPIROCHÆTA SUIIS AND ITS CHARACTERISTICS AS A PATHOGENIC ORGANISM.

W. E. King and G. L. Hoffmann have published (*Journal of Infectious Diseases*, Chicago, 1913), an article upon this subject. The *Spirochaeta suis* is an organism which is found in the intestinal ulcers, the crypts of the cæcum, and the external local lesions in animals suffering from swine fever. It is a typical spirochaete, and in some of its characteristics it resembles some organisms whose nature and life histories are better known, such as the *Spirochaeta pallida*, the *Spirochaeta gallinarum* and others. The *Spirochaeta suis* seems to be able to disintegrate into granules, and these granules apparently form an important part of the life-cycle and physiological activity of the organism. They are contained in the blood of pigs suffering from swine fever, and in cultures of the *Spirochaeta suis*, and they are capable of causing the disease in healthy pigs.

In the blood of pigs suffering from swine fever, the presence in small numbers of a comparatively large spirochaetæ has been demonstrated. As this organism has not been found in healthy pigs it may represent the *Spirochaeta suis* in a transition form.

The *Spirochaeta suis* is an obligatory anaerobic organism, which requires an incubation period of some weeks before it grows on artificial media. It can be carried over from generation to generation on artificial media. When cultures which contain the organism in the form of both spirochaetæ and granules are passed through a Berkefeld filter, the spirochaetæ remain behind, while the small granules pass the filter and are able to cause swine fever or resistance against the disease.

The *Spirochaeta suis* produces typical swine fever in healthy pigs into which it is injected. This is the case not only with infective cultures which have been sown directly from the intestinal ulcers of swine fever patients; third or fourth generations upon artificial media which contain the *Spirochaeta suis*, and similarly the Berkefeld filtrate of the same agent, are able to cause swine fever and definite reactions which bespeak more or less protection against the disease. The pathogenicity of these cultures does not seem to be caused by the passage of an unknown "invisible micro-organism," which is finally transmitted to healthy pigs by the inoculation. Control experiments show that the

pathogenicity of cultures of the *Spirochaeta suis* belongs to this species itself in the form of spirochaetæ and granules.

Finally, in pigs which have been given the disease by cultures of the *Spirochaeta suis*, the organism has been demonstrated by dark-ground illumination in the intestinal or external lesions.

From the foregoing results, which have practically fulfilled Koch's postulates so far as this is possible with an organism possessing the biological properties of the spirochaete, it can be concluded that the *Spirochaeta suis* is better established as the specific cause of swine fever than any other known organism.—(*Berliner Tier. Woch.*)

W. R. C.

UNITED PROVINCES VETERINARY MEDICAL SOCIETY.

The third annual meeting was held on April the 11th and 12th at the Kaisar Bagh Baradari, Lucknow. 115 members were present, as well as many Zamindars who were interested in the proceedings.

Mr. E. W. OLIVER, I.C.V.D., in opening the meeting, congratulated the Society on its progress and work, and called attention to the great advances made in veterinary science during the last few years. He pointed out the responsibility which rested on the veterinary profession not only in the preservation of the animal wealth of India but also in connection with the public health of the community.

In enumerating the various diseases which are communicable from animals to mankind, Mr. Oliver remarked how little the public generally seemed to appreciate the part played by the veterinary surgeon of to-day in the interests of the community, and predicted that the time could not be far distant when the Government and the people must realise the usefulness and necessity for a strong and well equipped veterinary service.

Mr. WILSON, M.R.C.V.S., in a sympathetic speech, pointed out the encouragement which the Society's efforts and the scientific magazine had met with during the past two years.

SKEIKH NIAZ MOHAMED, Deputy Superintendent, C.V.D., after pointing out how necessary it is for scientific men to keep themselves up-to-date in their professional work, read a most interesting paper on "Piroplasmosis."

The following interesting papers were read and discussed:—

"The Economical Feeding of Cattle in India," by V. I. Tek Chand.

"Foot-and-Mouth Disease," by V. I. Imdad Hussain.

"John's Disease," and "Tuberculosis," by V. I. S. M. Raza Husain.

"Canine Distemper," and the "Use of Vaccine," by G. B. Roy.

Many interesting subjects were introduced by other members.

At the close of the discussion of more technical subjects, prizes and medals were awarded to members for valuable work, literary and otherwise, carried out through the year.

It was resolved that a magic lantern equipment and slides dealing with veterinary hygiene and sanitation be purchased from the Society's funds, with a view to giving demonstrations at horse and cattle fairs and in villages, and otherwise interesting the cultivator and animal owners in the subject of live stock.

It was decided that in view of the present fodder famine one hundred rupees should be forwarded from

the Society's humble resources to the famine fund towards the supply of fodder to the poorer owners of cattle in the province.

The services of Mr. S. C. Bhattacharjya as President of the Reception Committee, were very widely appreciated, and an Executive Committee was formed to conduct the work of the Society with Sheikh Niaz Mohamed, Deputy Superintendent as President and S. M. Raza Husain as Secretary.—*Indian Daily Telegraph*.

THE VETERINARY ASSOCIATION OF NEW SOUTH WALES.

The Annual Dinner was held at Paris House on Tuesday evening, the chair being occupied by Mr. S. T. D. Symons, Chief Inspector of Stock, and President of the Association. After the usual loyal toasts, Dr. S. J. Johnston proposed "The Veterinary Association," urging the members to push on with the proposed Veterinary Surgeons Bill, as he supposed the evils of quackery were as great in veterinary medicine as in human medicine.

The PRESIDENT, in replying, briefly outlined the history of the Association, and was able to show that the membership was steadily increasing, chiefly as a result of the graduation of students from the Sydney University Veterinary School, while the financial position of the Association was strong. As an instance of the way in which the Association was pushing forward the interests of the profession, and endeavouring to protect the stockowner from imposition and the stock from unnecessary suffering, Mr. Symons mentioned that the Association had been instrumental in bringing

about a discontinuance of the issue of certificates in veterinary science at educational establishments other than the University, as frequently such certificates, although gained after a very short and elementary course, were made use of by the holders in such a way as to induce the public to regard them as fully qualified veterinary surgeons. Again, the Association had been instrumental in obtaining the withdrawal of certain advertisements which were misleading and calculated to impose on the public. He concluded by expressing the hope that the Veterinary Surgeons Bill might soon become law.

Prof. DOUGLAS STEWART, in welcoming the visitors, noted how wide were the ramifications of the veterinary profession, as indicated by the guests present.

Mr. CHALLIS, Chief dairy expert, Union of S. Africa, replying, acknowledged the debt which he personally and those he represented owed to the veterinary profession in South Africa, as without its aid in the control and eradication of disease, dairying would have been practically impossible there. He spoke also of the benefit which he felt he had gained, and the knowledge he had acquired during his recent trip through Australia and New Zealand.

The health of Mr. C. J. Sanderson, who is about to proceed to England to purchase stock for the Department of Agriculture, was drunk with musical honours, and with toasts for the Army (replied to by Captain, Matson), the Secretary, and the Chairman, a highly successful function was brought to an end.

Amongst those present were: Dr. Kesteven, Major Melhuish, Dr. Dodd, Captain Callow, Messrs. Bell, Doyle, M'Masters, Veech, Hindmarsh, Oliver, Woods R. Stewart, Thorpe, J. M. Stewart, and Max Henry, Hon. Sec.—*Daily Telegraph* (Sydney), April 14.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.		Out-breaks	Slaughtered.*
	(a)		(a)		(b)		(b)		(b)	(a)	
GT. BRITAIN.											
Week ended May 23	16	16			3	3	22	40	2	117	954
Corresponding week in											
1913 ...	13	13			4	4	56	97	2	54	1183
1912 ...	14	14			3	4	51	89	1	66	1003
1911 ...	19	21			6	7			1	83	756
Total for 21 weeks, 1914 ...	384	410	11	74	39	85	1246	2249	144	1643	16574
Corresponding period in											
1913 ...	275	297			71	216	1449	2976	119	931	13802
1912 ...	449	503			70	149	1928	4296	160	1407	17863
1911 ...	411	503	1	18	88	241			297	1016	10797

(a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked: Durham 2, London 1. Board of Agriculture and Fisheries, May 26, 1914

IRELAND. Week ended May 23	...	...	1	11	...	...	Outbreaks 2	7	4	53
Corresponding Week in										
1913 ...	...	...	...	...	...	...	...	6	3	14
1912 ...	...	...	...	...	...	...	...	...	7	118
1911 ...	...	...	...	...	...	...	...	5	...	...
Total for 21 weeks, 1914 ...	1	1	73	944	...	...	43	332	102	505
Corresponding period in										
1913 ...	...	...	...	...	...	...	83	284	65	395
1912 ...	2	2	...	...	...	...	37	249	111	1120
1911 ...	5	5	...	...	1	2	38	236	49	816

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, May 25, 1914
NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

MIDLAND COUNTIES
VETERINARY MEDICAL ASSOCIATION.
[NATIONAL V.M.A. NORTHERN BRANCH].

The quarterly meeting was held at the Grand Hotel, Birmingham, on Friday, May 15th. The President of the Association, Mr. J. Malcolm, of Birmingham, occupied the Chair, and other members present were: Messrs. M. Tailby, B. DeVine, L. C. Tipper, E. O'Neill, J. Young, S. Woodward, Birmingham; J. Martin, Wellington; W. G. Thompson, Stafford; R. Murray, Rugeley; A. B. Forsyth, Cannock; R. C. Trigger, Newcastle-under-Lyme; J. J. Burchnall, Loughborough; A. Over, R. Over, Rugby; W. L. Gascoyne, Lutterworth; W. E. Ison, Atherstone; H. L. Pemberton, Bridgnorth; E. Beddard, Wolverhampton; W. H. Brooke, Handsworth; J. A. Gold, Redditch; W. S. Carless, Worcester; T. Slipper, Sutton Coldfield; H. Collett, West Bromwich; L. W. Heelis, Solihull; W. Dale, Coventry; H. Yeomans, Smethwick; F. V. Steward, Hereford; C. F. Parsons, T. J. Brain, Cheltenham; F. B. O. Taylor, Stratford; R. L. C. Forrest, Alcester; D. Forwell, Towcester; and the Hon. Sec., Mr. H. J. Dawes, of West Bromwich.

The visitors present were: Prof. Mettam, Dublin; Councillor D. Rose, Chairman of the Stables Committee of the Birmingham Corporation; Messrs. J. Laithwood, Congleton; W. G. White, W. D. Connochie, Birmingham; and T. Thomson, Wolverhampton.

Apologies for unavoidable absence were received from Professors Sir John M'Fadyean, McCall, Macqueen, Hobday and Penberthy, Messrs. E. Ringer, J. Blake-way, Jun., C. M. Barton, F. L. Gooch, W. Blunson, W. H. Brown, C. E. Dayus, T. Ludlow, E. Franklin, R. Cockburn, C. W. Crofts, C. Haywood, W. F. H. Pickering, F. W. Barling, T. Hobson, R. B. Palmer, E. Hall, John Blakeway, J. Whyte, J. Martin, Jun., H. Thackeray, G. Thornton, H. S. Reynolds, J. Bainbridge, J. C. Deville, E. Woodcock, J. A. Connell, T. H. L. Duckworth, F. T. Prince, J. W. Coe, G. Wartnaby, G. Prickett, T. Chambers, and others.

THE PRESIDENT'S HOSPITALITY.

The company were entertained to luncheon by the President, at the conclusion of which his health was submitted in felicitous terms by Mr. Trigger. They were extremely fortunate, said Mr. Trigger, in having at the head of their Association during such an important year as this, a gentleman so highly honoured throughout the profession as Mr. Malcolm. The visit of the International Veterinary Congress to London was an event of great interest and importance, and in looking round for a President they chose one who will worthily represent this Association on such a memorable occasion. He wished Mr. Malcolm health and strength during what promised to be an eventful year of office.

The toast was drunk with much heartiness, and the President suitably acknowledged the compliment.

The minutes of the previous meeting were adopted.

New Members. Mr. T. THOMSON, of Wolverhampton, was nominated by Mr. W. G. Thompson.

Mr. F. O. TAYLOR, Stratford-on-Avon, was proposed by Mr. Gold, and seconded by Mr. Slipper.

Mr. R. B. PALMER, Warwick, by Mr. Gold, seconded by Mr. Martin.

Mr. F. E. HEATH, Moseley, Birmingham, by Mr. Tipper, seconded by the Hon. Sec.

These gentlemen, who had been nominated at the previous meeting, were elected.

THE HUNTING MEMORIAL FUND.

Mr. TRIGGER, in accordance with notice, moved the following resolution:—"That a sum of ten guineas be subscribed by this Association to the Hunting Me-

morial Fund." He remarked that everything was said that could be said at the last meeting on this subject. It was common ground that they ought to do all they could to perpetuate the memory of their old friend.

The resolution was seconded by the Hon. Sec., briefly supported by Mr. Gold, and carried unanimously.

THE LATE MR. GEORGE SMITH.

The HON. SEC. said that since their last meeting they had lost a very old and esteemed member of the Association in Mr. George Smith, of Tunstall. He was one of the most regular attenders they had, and it was always a pleasure to see him. His genial and kindly manner appealed to everyone, and they would miss him very much. He moved that a letter of sympathy be sent from the Association to the family.

Mr. CARLESS, in seconding, said Mr. Smith represented the old school of practitioners who, he was sorry to say, were fast dying out.

Mr. TRIGGER, as one practising in the same neighbourhood as Mr. Smith, begged to support the motion. He had known him ever since he commenced practice over forty years ago, and although they were rival practitioners their relations had always been of the most cordial description.

The motion was carried *sub silentio*.

COUNCIL'S REPORT.

The HON. SEC. presented the report of the Council of the Association:—

A meeting of the Council was held immediately prior to this meeting, when there were present: Messrs. Malcolm (in the chair), DeVine, Ison, Burchnall, Martin, Brooke, Slipper, R. Over, Pemberton Carless, Heelis, Trigger, Collett, and the Hon. Sec.

The following recommendations to the Association were made:—

That in view of the holding of the International Veterinary Congress in London in August, there be no ordinary meeting of this Association in August this year, but that to comply with the rules, which require four meetings annually, a formal meeting be held in London on one of the days of the International Congress.

That the November meeting of the Association be held in Nottingham, and that Prof. Gofton be asked to give a practical demonstration, the subject to be arranged by Prof. Gofton, the President, and Hon. Sec.

That the President and Hon. Sec. be appointed delegates to the International Veterinary Congress.

That no delegates be sent this year to the Royal Sanitary Congress.

The Hon. Sec. reported that the President and himself had signed, on behalf of the Association, a petition to the treasury for a pension for the children of the late Mr. Wm. Hunting, and he asked for an endorsement of that act.

The conjoint Veterinary Association of Ireland asked for support for their candidate (Mr. Howard, of Ennis) at the next election, and it was recommended that no combined action be taken, but that members could rest assured that Mr. Howard would make a good member of Council if elected."

Mr. TRIGGER moved the adoption of the report of the Council, and the President, in seconding, explained the reference to the petition for a pension for the children of the late Mr. Hunting. He said there was no time to be wasted, and as he knew what the feeling of the members would be in the matter, he and Mr. Dawes acted on their own initiative. They signed the petition themselves, and induced a few public men in Birmingham, such as the Lord Mayor, the Vice-Chancellor of the University and Mr. Jesse Collings, M.P. to do the same.

The report was then adopted.

PRESIDENTIAL ADDRESS.

Mr. JOHN MALCOLM, F.R.C.V.S., Birmingham.

Gentlemen,—You will expect me to follow the established custom of your presidents, and make a few remarks on some points of current interest on taking the chair at the first quarterly meeting of our Midland veterinary year.

On this occasion I feel sure you will desire me to be as brief as possible in order that you may have requisite time to hear Prof. Mettam's address on the important subject of foot-and-mouth disease, and to permit thereafter a full discussion on this subject.

In attempting to thank you for electing me your President for the year, I have to ask your indulgence. No words at my command can adequately express what I really would wish to say. The signal honour you have conferred upon me in order that I may once again represent your Association at an International Veterinary Conference is an appreciation which I am very conscious I have done far too little to deserve, but which I value very highly and the remembrance of which I shall always treasure. I am not naturally of an envious disposition, but to-day I am tempted to wish that I possessed a small measure of the gift of eloquence which some of my predecessors seemed so richly endowed with, so that I might have been able to convey to you in adequate terms my deep sense of your long and continuous personal kindness and professional confidence. As it is I can only ask you to accept the will for the deed.

Before saying anything on current topics I should like with your permission to be for a moment reminiscent.

The Midland is one of the older associations, and almost from the day of its foundation in 1866 it has been a leading provincial one. The Secretary tells me that during the first decade its members had some real difficulties to surmount, but, whatever their extent, they were quickly overcome for, in 1881, when I joined the Association on coming to Birmingham, it was in a very vigorous and flourishing state. As it was then so has it continued to be—an up-to-date practical veterinarians' association, not only dealing with our every-day affairs but taking an interest in pioneer professional work wherever displayed, and ever ready to put such work to the test of practical experiment. In thus sifting the wheat from the chaff it has been second to none.

From the papers read, the experiences recorded, and the demonstrations given, as well as from the excellent relationship maintained between members, this Association has provided a valuable meeting ground for all within its reach. Personally I know that my joining it has proved one of the best things I ever did. In no other way could I have obtained quite the same practical information, and in no other way could I have secured so naturally the needed professional fellowship or so freely the right hand of friendship wherever I went. This experience convinces me that those young Midland veterinary surgeons who have not yet joined would lose no time in doing so if they realised all that membership gives.

It is true that the Association is no longer the independent local entity it was prior to the general affiliation of the local societies with the National to form one federal whole. But I am confident the Midland has gained far more in possibilities for good from affiliation than it has lost. Though no longer isolated it is still essentially independent, and retains those midland characteristics of which we have been so justly proud and which have marked it from the beginning. That organised union is strength is a common-place fact of to-day; and we may now justifiably look to the National with its new federal strength to do far more for our

common good than was possible by the independent action of the societies in the past.

As the work of the National Officials must necessarily be greater in the future it will be necessary to take care that the right men are chosen from time to time to fill the responsible positions; also that our bye-laws are adequate to secure that no temporarily dominant section can run the Association to the possible detriment of the other sections.

The only change that one really regrets in our Midland Society is the change in the *personnel* through the loss of members. But this is a change inherent in all societies of any size and duration, it has been inevitably in operation from the beginning, for this Society claims no exception to the common law. We have now none of the founders of the Society with us, and our nearest link is that in one of our members we have the son of one of the founders. And I may here say that we look with no uncertain expectation to Mr. Ison to do his share as loyally and unmistakably in strengthening the Association as his father did in its early days. Of the 108 members and seven associates now on the list only six were there when I joined. I am afraid, therefore, I can no longer question that I am now one of the older members; as such I have joined with the other old members in mourning the loss of many colleagues. At the same time it has been a great boon to have known such personal friends and past pillars of the Association as Francis Blakeway, Harry Oliver, W. Carless, J. M. Parker and a host of others too numerous to mention.

Since our last meeting the decease of our old friend George Smith increases the list of those who have passed into the great unknown. In him we have to mourn the loss of one of the most loyal, upright and consistent of the early members. He was one whom we were all glad to know, and whom we all affectionately called George—no uncertain tribute to his personal good qualities.

Of those not now on the list but still happily here some have withdrawn probably for financial reasons, others to carve out their fortunes elsewhere. Of the latter none have obtained greater eminence than the one time Birmingham member, now the honoured Principal of the Dublin Veterinary College, whom we are again glad to see at one of our meetings.

Among the half dozen present members who were on the list when I joined, there is one who has done exceptional work for the Association on the Council, and among those who joined soon after there is another who has done yeoman service as Secretary. It is some gratification to me to think that I showed what time has proved to be wise prescience in the interests of the Association when a quarter of a century ago I proposed the nomination of Mr. Trigger as our representative for Council, also when two years later I nominated Mr. Dawes as secretary. No society could have been better served in either capacity, and your endorsement of these nominations ever since shows how thoroughly you have recognised this.

One and all will agree that there is nothing to record but what is satisfactory respecting the Association; but it is otherwise with regard to the individual members. In many cases their recent experiences and their prospects are unsatisfactory. In the Midlands as elsewhere, modern exigencies and the spirit of the age are in certain directions against the veterinarian. The motor has already hit many practitioners very hard, and that in the best paid and most pleasurable part of their practice—the horse practice. And so far as one can see at present the landslide in horse-practice is likely to continue and to overwhelm many who have specialised in this line unless they turn their attention to other fields in the future. Fortunately, there are certain fields open to attention, though probably these

will prove less remunerative and less congenial than that of equine practice.

In the Government Service at home, in India, and in the Colonies the demand for capable young veterinary surgeons has shown a wonderful expansion, and is still increasing. Similarly, in our Municipal and other local public services the openings in connection with meat inspection, dairy inspection, contagious diseases and public health preventive medicine generally, also show an encouraging increase. In connection with tuberculosis and other Board of Agriculture work, it is a pleasure to record that the Board in its recent enactments requires that work that is essentially veterinary in nature shall be carried out only by veterinary surgeons, and there are indications that other Government departments are likely in the near future to follow similar lines. It now lies with us individually and collectively to see that these indications become realisations. We have recently seen that if a sufficient body of the public require that any public veterinary work should be done by veterinarians the Government will acquiesce and legislate accordingly. What we therefore require to do is to educate the public in the right way and as to what is really our work. Individually our clients recognise that we alone are equipped for any specific veterinary public work. When we can induce them collectively to require our services for such work our battle will be won. In this educational crusade we need the help not only of the Royal College of Veterinary Surgeons and the Veterinary Associations, but in particular that of every individual member. In mentioning these indications of new openings to our members we do not forget that the mainstay of the profession, general country practice, as well as the Army, requires as many men as formerly.

If my time and your patience had permitted I should have liked to take advantage of the present opportunity and speak on several matters that interest me, and may also be of interest to you, but as neither time nor patience allows I shall not trespass on your indulgence further than to make the briefest passing reference to one or two of these, such as the delay in eradicating glanders, the easy diagnosis of mange, the rapid diagnosis of contagious abortion, the prevalence of John's disease, the failure to eradicate swine fever, and one or two points respecting tuberculosis and dairy inspection.

THE DELAY IN ERADICATING GLANDERS.

One cannot help marvelling at the number of years required to eradicate glanders in the London area. There can be no justification for this delay. We know that the present powers, if efficiently and uniformly applied, would have cleared greater London years ago, as they have other localities. We acknowledge the London veterinary inspectors' competency, and we are sure they are not responsible for the result. We can only conclude that there has been some factor at work not evident to outsiders and which has cost the London ratepayers ten times the amount that was necessary to eliminate the disease. It is unnecessary to say to veterinary surgeons that if all the infected horses in London were killed to-day the cost of eradication would at once cease. One naturally asks why London alone has failed to find the infected. I remember when the present Glanders Order came into force, and I had 30 horses killed on one day, my chairman was aghast at the cost, but when I explained the effect of keeping infected horses alive I received his most hearty support, and in three months Birmingham was free from glanders and we have only had to deal with isolated introductions since. We and others continue liable to such introductions as long as London remains infected, and that is my excuse for mentioning this subject to-day.

THE EASY DIAGNOSIS OF PSOROPTIC MANGE.

Some members seem to experience a difficulty in finding the acarus in mange cases. In treated cases there is often a difficulty. In untreated ones it is a simple matter. If the scales from the circumference of an affected patch of skin are spread out on a pane of glass and the glass is gently heated over a gas flame the living acari commence immediately to run about, and they are then easily seen by a naked eye or through any hand magnifying glass. I feel I owe you an apology for mentioning this old simple method here, but for the recent remarks of two members I would not have dreamt of doing so. I have here an ordinary microscopic slide on which there are some 500 acari placed there on Monday last by Mr. Connachie. He will show you them under the microscope and you can count them if you like. He simply picked up the moving acari from among the dry scales on the glass plate with a needle whose point had been dipped in oil and the oil then lightly wiped off. The acari adhere to such a point and can be transferred with ease and rapidity from the glass pane to a drop of water, oil, or other liquid on a slide.

THE RAPID DIAGNOSIS OF CONTAGIOUS ABORTION IN CATTLE.

The work of Sir John M'Fadyean and Sir Stewart Stockman has made the laboratory diagnosis of bovine contagious abortion by the agglutination test such an easy, quick, and accurate method of diagnosis that no veterinary surgeon can be excused who fails to recommend his clients owning infected herds to have the blood of each animal submitted to the test. The result will enable anyone to separate the infected from the free with accuracy.

In submitting the blood no animal should be omitted, for bulls and virgin heifers may be infected as well as cows. In the future it should be a much less formidable and less costly affair to successfully deal with an infected herd than in the past. The disease has been of particular interest to me, owing to the difficulty experienced in attempting to eradicate tuberculosis and contagious abortion from the same herd. Even this may now be successfully tackled.

THE PREVALENCE OF JOHN'S DISEASE.

Our Birmingham abattoir statistics show that nearly as many carcasses are condemned from John's disease as from tuberculosis. Clearly John's must be much more prevalent than is generally supposed, and as it has hitherto resisted all treatment the loss sustained must be very considerable. In the past one has always advised that an animal affected with John's should be killed immediately, as cases always get worse, and the longer the affected are kept alive the greater the liability for their carcasses to be condemned. The record, in the current issue of the *Journal of Comparative Pathology and Therapeutics*, of a case cured under ferrous sulphate and sulphuric acid treatment is of more than passing interest. Anyone who introduces a real remedy for this hitherto invariably fatal disease must be regarded by farmers as a public benefactor. And the fact that one undoubted case has recovered should be a great incentive to fresh trials. It seems to me this is a matter well worth the Board of Agriculture's attention.

THE FAILURE TO ERADICATE SWINE FEVER.

The published statistics of the Board of Agriculture clearly show that swine fever has experienced no real decrease in recent years. The existing regulations have manifestly failed in their object to eradicate the disease in the past, and there are no good grounds for

supposing they will be more successful in the future. No one need wonder, therefore, at the discontent of pig owners and pig dealers, or at their derisive criticism of the Board's procedure, or, for that matter, at their lauding the serum or any other treatment.

Under the circumstances may we not now very naturally ask whether these unsatisfactory results are the best that can be expected in the suppression of swine fever? Must it be accepted that this disease is ineradicable by ordinary measures? Can nothing less than powers similar to those necessary to stamp out cattle plague be effective? And seeing that cattle plague measures have been ruled out of court here, must we be prepared to regard the continued prevalence of swine fever as inevitable, or may we still legitimately look for success by other and less drastic means? Notwithstanding past failure, the late Sir George Brown's memorable prediction, and the pessimistic views generally prevalent, I am one of those who implicitly believe in the possibility of eradication—and that without resort to cattle plague measures and simply by the introduction and application of a reasonable practicable procedure, less irritating, less open to criticism, and no more drastic in practice, than that which has so signally failed. Past experience has shown that eradication can be, and has been, temporarily effected sectionally. In fact the disease is continually being stamped out in small areas. Unfortunately, it is soon again introduced by importation from untraced sources of infection in other areas. What is now required is eradication in larger areas coupled with an effective system preventing re-infection.

We know that swine fever does not arise spontaneously. It has never been seen on a farm previously free unless and until introduced from outside. Each case arises directly or indirectly from a pre-existing one, though the latter frequently seems untraceable and remains untraced. It is the unsuspected infected pig, pig pen, pig excretions, pig offal and other pig products or other infected media, that are mainly responsible for the continued prevalence of the disease, and that require to be detected and the infection suppressed.

With respect to swine fever products from butchers' shops and restaurants, we know that many infected pigs pass the butcher without the disease being detected, and we believe infected offal and other products not infrequently pass back among pigs in the shape of food or manure. I have frequently seen cases of infected pigs in consignments sent to our market to be sold for slaughter, but before detection part of the consignments have passed through the market and been sent away to factories and shops outside our area. In such cases the outside local authorities have invariably been notified that these pigs were part of an infected consignment. I have systematically inspected the returns of swine fever to see whether the disease had been declared in any of these cases, and I have to confess I have never observed any declared case under these circumstances. Such undeclared cases are without doubt liable to be sources of infection, but to trace the effects is very difficult.

Needless to say the tracing and discovery of undisclosed cases is work for up-to-date expert veterinarians with practical experience of swine fever. Many such are in the service of the Board, and only such are fully competent to undertake the work. With our more accurate knowledge of the nature of the disease, our increased powers of differential diagnosis, and our fuller appreciation of the means by which infection may be spread, much better results should be possible in the future than have been in the past. But if this is to be secured it will necessitate a change in the Board's policy of central administration with its apparent lack of personal responsibility for results, and the substitution of an appropriate measure of decentralised adminis-

tration embodying the essential principle of individual responsibility within prescribed districts. If this were inaugurated the conditions which make for success would at once be immeasurably advanced. I do not suggest that there should be any loss of effective control by the central authority, nor necessarily any additional control by the local authority, though local official knowledge should be assiduously sought for and made use of. What I do suggest is that the country should be sub-divided into a number of districts, administrative districts, whose extent in each case should be governed by geographical position, the pig population, and the prevalence of the disease; and that experienced veterinary superintendents responsible to the Chief Veterinary Officer of the Board should be put in charge. Each superintendent would, of course, have to possess, or have soon to acquire, full personal local knowledge of his district, have to know what he had to overcome and how to overcome it, be empowered to apply and enforce all necessary regulations, whether they be slaughter, or segregation, or serum treatment, or other measure; be prepared to accept responsibility for results and be entitled to recognition for success. Movement within the district should be permitted except in infected areas, but no movement from outside districts should be permitted into a district except for slaughter where systematic post-mortems, would be carried out, or for breeding purposes under special regulations as to inspection before removal and inspection with an adequate period of quarantine after admission. In due course, when adjoining districts had been freed from the disease and had remained free for an adequate period, free inter-movement within these districts could be permitted, and with the continued elimination of the disease the procedure could be extended until in time the whole country became free.

There are certain large outlying districts whose geographical position and experience of swine fever specially lend themselves to such a procedure as I have suggested and where it could readily and inexpensively be put in operation and the effects observed. If this were done, and the right men put in charge, the results I am confident would soon warrant a general extension of the procedure.

RESPECTING TUBERCULOSIS AND DAIRY INSPECTION.

Percentage of Tuberculous Cows in Dairy Herds. During the seven years ended December 31st, 1913, we tested with tuberculin 2,955 cows for the first time. Of these 872 cows reacted or 29 per cent., shown as follows:—

Year.	Tested.	Reacted.	Per cent.
1907	51	22	43.1
1908	378	168	44.4
1909	421	128	30.4
1910	562	105	18.7
1911	429	124	29
1912	504	127	25.2
1913	610	198	32.4
	2955	872	29.5 Average

At the minimum end of the list of the herds tested, one herd of 14 cows was entirely free, one herd of 13 cows had one reactor, and one herd of 19 cows had 2 reactors.

At the maximum end of the list one herd of 45 cows had 37 reactors = 82.2%, and one herd of 52 cows had 30 reactors = 57.7%.

Percentage of Cows giving Tuberculous Milk. Our statistics show that of the cows supplying milk to Birmingham 1% of those outside and 1% of those in the city area are giving tubercle-infected milk. This is arrived at from the following: 7.5% of the milk churns coming to Birmingham contain tubercle infection, and

each churn contains approximately the milk of 10 cows. If each infected churn were infected only by the milk of one cow as it generally is, 75% of the outside cows supplying Birmingham would be giving infected milk. But occasionally there is more than one infected milk in a churn; e.g., the last infected churn we had to deal with contained three infected milks from a farm in Derbyshire. We reported the three cows and they were slaughtered by the County Council. It is rare to find infected milk from three cows in the same churn, but it is not so rare to find it from two. Bearing this in mind we can fairly assume that at least 1% of the outside cows are giving tubercle infection in their milk.

In comparison with this we have to record that of the approximate 4,000 cows within the City of Birmingham during the year, and subjected to monthly veterinary inspection, only four cows—1 per cent. were found giving infected milk. The difference is no doubt partly due to our systematic inspection, and partly to the fact that in most cases only good milch cows are purchased, and are sold again within the year.

Every Reactor an Infecting Cow. My colleagues unanimously agree with me that practically all reacting cows are, in a sense, cases of open tuberculosis, inasmuch as such cows are capable of infecting tubercle free susceptible cattle. When a cow recently infected but not yet a reactor passes the test and is admitted to tubercle free herd it will infect its most susceptible companions on its becoming a reactor—if not before. At one time or another we have heard much about Ostertag's method of stamping out tuberculosis by casting the clinical or open cases. In our practice there appears to be no closed cases in reacting cattle. Anyone who has a tubercle free herd and keeps it up by outside purchase of non-reacting cows will do well to retest every purchase within three months. If he does not, and a recently infected one happens to pass and is admitted to the herd, he will find in six months that not only the recent purchase but several others will have become reactors.

Reactors ceasing to react. We all know that if a cow is tested with tuberculin and reacts, and is again tested soon afterwards, it may then pass the test. Recently we heard of a man who boasted he was able to make any reactor pass, and we were informed of his method of procedure. We have recently treated six cows on his lines, one of these we tested a fortnight afterwards and one each week subsequently until all had been done. None showed any reaction. We purpose retesting them in another three months time to see whether they continue to be non-responsive.

Clean versus Dirty Milk. At the present time there is a great cry out about dirty milk and it has to be admitted that much of the milk on sale is disgustingly contaminated with dung, etc. A special effort is being made to remedy this evil and to supply clean milk. To aid this we require better constructed cowsheds and cleaner and better instructed attendants. It is not generally realised that the internal construction of the cowshed plays such an important part in the cleanliness of the cows, and consequently of the milk, as it does. A general defect in sheds with a feeding passage is the defective head partition. In most cases this partition is so constructed that the cows can either get their through or over it into the feeding passage. Cows when in this position drop their dung on the end of the cowbed and subsequently lie in it. To prevent this the partition should not permit the cow's head to pass through or beyond it. For a similar reason the managers should not be more than two feet wide and its bottom should be two inches higher than the level of the cowbed. To enable the cow to lie against the manger with her head over it, the height of the manger should not exceed 10 inches. High mangers tend to force the cows back into the gutter when they lie down.

The length of the cowbed should not exceed 5 ft. 6 in., and the width of the double standing 7 ft.; if they do the cow's dung will fall on the bed instead of into the gutter. The gutter should be not less than 6 in. deep at heelstone, 2 ft. 6 in. wide, have a fall away from the heelstone of 1½ inches and a fall of 1 to 30 lengthways. Such a gutter affords plenty of room for the dung and permits the rapid draining away of urine. The heelstone should be right angled. A rounded heelstone induces slipping. The milking passage, or passage behind the gutter, should be at least 4 ft. wide, and so prevent the splashing of dung on the back wall.

It is desirable that something like uniform specifications for the internal construction of sheds should be issued by the Local Government Board, and these should be drawn up after consultation with experienced inspectors. Whether this is done or not, it is essential that the inspection of cowsheds should only be entrusted to practical qualified inspectors who have had experience of the work, and who therefore know the best conditions for obtaining clean milk.

The cleanest milk I have seen was obtained from cows milked into special cans, in special dust-free milking sheds, where the sheds and cows were washed and the milkers' hands washed before the cows were milked. The difference in the bacterial count of such milk and the milk usually supplied is remarkable. One would naturally think that where a milking machine is used the milk would be very clean, but as a matter of fact the bacterial count of such milk is generally higher than where the milking is done by hand. This appears to be due to the practical difficulty in thoroughly sterilizing the various parts of a milking machine. I have here one of the special milking cans I have referred to. You will see it is so constructed that no dust present in the air or upon the cow can fall into the milk.

Gentlemen, I feel I owe you an apology for introducing so much irrelevant matter into a presidential address, and for having so long stood in the way of Prof. Mettam, who I know you are now impatiently anxious to hear.

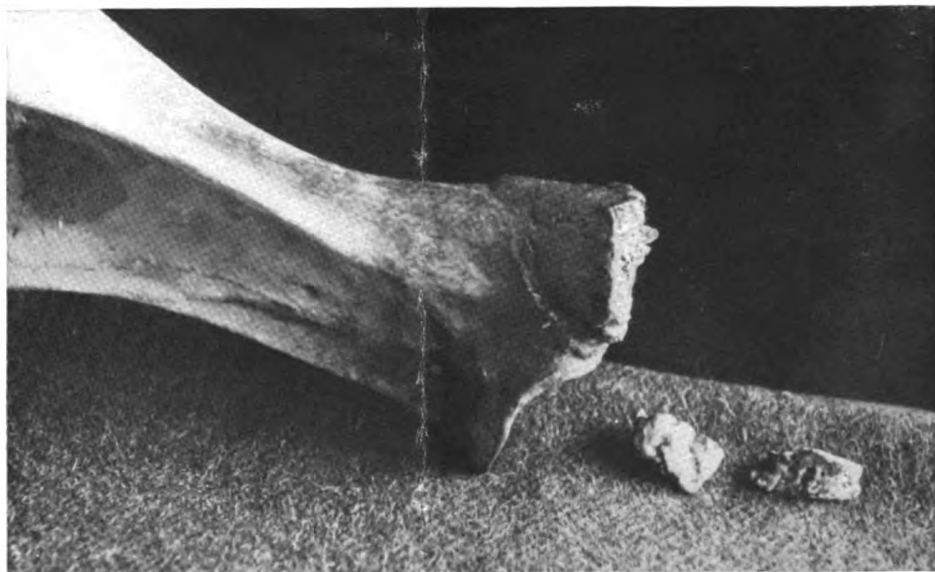
A vote of thanks to the President for his address, with a request that he would allow it to be published in the report of the meeting, was moved by Mr. Martin, seconded by the Hon. Sec., and carried unanimously.

FOOT-AND-MOUTH DISEASE.

By A. E. METTAM, B.Sc., M.R.C.V.S.

Principal, Royal Veterinary College of Ireland, Dublin.

From time to time foot-and-mouth disease appears in Great Britain, and during the last three years, in 1912 and the present year, the disease has also occurred in Ireland. How it is that for many months, or even as in the case of Ireland for many years, the disease is absent and then suddenly occurs without warning and without any clue as to its origin, is one of the perplexing problems of epizootiology. Occasionally isolated outbreaks occur which the most persistent inquiries fail to unravel, and in places where there has been no intercourse or connection with diseased centres and where no cattle have been introduced from other parts. Further, isolated outbreaks occur in places far removed from each other, occurring simultaneously or in quick succession, where there has been no direct or indirect communication between the infected centres, and where investigation has entirely failed to explain how the infection arose or whence it came. It would be relatively easy to explain the relative occurrence of the disease if infected animals were allowed to live, but so far as we know, all infected and in-contact animals are destroyed and the infection is wiped out from a centre where the disease is known to exist. It may be presumed



FRACTURE OF ARTICULAR EXTREMITY OF SCAPULA.

Illustrating note by Capt. C. E. STEEL, A.V.C.



MEMBERS OF THE UNITED PROVINCES VETERINARY MEDICAL SOCIETY
At the meeting at Lucknow, April 11th, 1914.

that once an outbreak is discovered and dealt with by the authorities that the infection for the time being has ceased to exist and that the country is free from the disease. If this be the case—and we are not asking too much to believe it to be so, since in many instances months may elapse before another case is reported and then only in some far distant part of the country—where does the infection come from? How is it spread? What means can we take to prevent the infection coming in? These are all questions which we of the profession are constantly asking ourselves. In cases of in-contact animals there is no difficulty in answering questions as to how animals previously healthy become infected. It is those outbreaks which occur singly with no previous history of contact with infection, which claim our attention and demand explanation.

Foot-and-mouth disease is a specific eruptive fever affecting cattle, sheep, and swine. It may occur and has been described in the horse; it is said also to occur in dogs, cats, and poultry. Man is also liable to infection. The cause of foot-and-mouth disease is ultra-microscopic, capable of passing through a bacterial filter. Whatever its nature, it has never been seen, nor has it been grown on artificial media in the laboratory. The virus is present in the fluid of the vesicles which develop on certain parts of the body, and so potent is the virus that it is said that 1-5000th part of a c.c., or '003 of a minim of the fluid of the vesicle is capable, in a susceptible animal, of causing infection. The amount of actual virus able to produce infection is much less than the quantities just mentioned because the virus is greatly diluted by the fluid of the vesicle. Infection may be caused by rubbing the virus upon the mucous membrane of the mouth, or by injecting the virus into the blood stream, deep into the muscles, or into the peritoneum. Subcutaneous injection of virus is an uncertain method of producing infection. Infection may also be set up by giving the virus in food or bolus. Young animals suckled by infected dams are infected by the alimentary tract, and most cases in man have occurred through infection by the alimentary tract. Infection may also occur through the genital passages, but for all practical purposes, save under experimental conditions, we may consider infection to occur through the alimentary tract.

Following infection, the incubative period varies from three to six days—lesions may develop earlier than three days in the pig—it may be deferred beyond six days. Very virulent virus is likely to have a short incubative period; somewhat attenuated or modified virus a longer incubation. During incubation there is a moderate amount of fever, but the temperature usually is not very high, and if there are no complications it rapidly falls again when the eruption of the vesicles has occurred. During the incubative period, and for a day or two afterwards, the virus is in the blood, but it soon disappears from the blood, which becomes non-infective.

The lesions occur in well defined regions in or about the mouth, on the skin of the heels, interdigital space and of the coronets; and upon the udder. They may be found also upon the skin of the genital organs, of the perineum, in the vulva, at the base of the horn, etc. The typical lesion is a vesicle or bleb developing in the deepest stratum of the cells of the stratified and squamous epithelium of mucous membrane or of epidermis. An outpouring of lymph from the vessels of the corium accumulates between the cells of the rete Malpighi, which are pushed apart and eventually disconnected. Many of them swell up and burst, or become liquefied. The accumulating fluid dissects up the rete Malpighi and raises the superjacent cells of the epithelium. These cells are more tough and resistant than the cells of the deeper layers, and do not so readily give way. The result is a pocket or cavity filled with fluid in the

epithelium, nearer the corium than the free surface. From movements of the animal, from some attrition, or even from pressure of the contained fluid or solution of the cells, the cellular membrane bounding the cavity of vesicle gives way and the vesicle ruptures. The epidermis may be shed or may curl up, or it may be merely fractured or ruptured, but the contents of the vesicle escape and active virus is liberated. The question may be asked here, Is the virus present in the saliva before lesions develop? Recent investigations have shown peculiar bodies in the salivary glands, which are believed by the discoverer to be the actual organisms producing the infection. There is nothing extraordinary in the question, Is the virus in the saliva before eruption of lesions? because such has been proved to be the case in rabies. The corium beneath the vesicle is exposed, save for a delicate covering of epithelial cells, or the only cells left are certain colonies in the depressions between the papillæ of the corium. The corium is highly congested, the vessels are filled with blood, the tissues appear raw, and if roughly handled readily bleed. The vesicles vary in size, but they may be half the size of a hen's egg in the bovine, or even larger, and after rupture a large area of corium may be quite, or apparently, denuded of epithelium. In the mouth the lesions are usually found on the tongue, inside the lips extending to the gums, or the dental pad of the palate. Lesions may be present in the fauces extending into the pharynx. Vesicles may be found on the muzzle and on the lips. In swine and sheep lesions, though they occur in the mouth, are not common in this situation. They are more common in the swine on the snout and upon the lips. In sheep they also occur on the lips. After the vesicles have ruptured the lesions soon heal, unless secondary infection should occur. In a day or two the more or less exposed corium is covered with a new layer of epithelium, this new epithelium being derived from the epithelium at the periphery of the lesion, and especially from the epithelium still persisting in the recesses of the exposed corium. The rapidity with which the lesion is covered with epithelium is remarkable, and it could never take place in the time if the new covering depended upon the epithelium at the periphery. In sections made of the epithelium covering vesicles in the mouth it is not rare to find numbers of large granular corpuscles which may even be present in the interstices between the epithelial cells, interstices which have been greatly widened by the infiltrating lymph. Some have considered these corpuscles as the cause of foot-and-mouth disease, but they are only the familiar coarsely granular eosinophilous corpuscles which have been attracted to the part. Similarly from their presence near the lesion, and reasoning from analogy, which is not always safe, it has been surmised that the undiscovered virus of foot-and-mouth disease is probably an animal parasite.

Animals that have recovered from an attack of foot-and-mouth disease possess an immunity to a varying degree. How long this immunity lasts is very doubtful. Some claim it may persist for months, or even years, whilst there are others who declare that the same animal may show signs of infection several times in a single year. Cases are also recorded of animals being infected a second time shortly after having recovered from the first attack. It appears to me that if an immunity be established—and there is no reason to doubt that some degree is set up—then, if the immunity breaks down, it breaks down in the presence of a strong virus, probably a virus of stronger virulence than that causing the primary infection. There appears to be every reason to believe that the virus of foot-and-mouth disease varies in its virulency just as in swine fever, horse-sickness, diseases also due to ultra-microscopic viruses, the virulence of the virus varies in different outbreaks or in different districts. Animals immunised against a parti-

cular strain of virus may not be able to resist inoculation, or exposure to another and apparently more potent virus, and so an animal which has recovered from foot-and-mouth disease may, though it possesses an immunity against the virus producing the primary infection, altogether fail to resist infection by a second virus. That the virus of foot-and-mouth disease is variable as to its virulence there is no doubt. The fact is thoroughly well-known that, among well grown cattle, the severity of attack as gauged by mortality varies. Somewhat similar facts have been noticed in India. Not only is great difficulty experienced in setting up the disease by inoculation, but when the infection is produced its course is that of a mild infection, and the infection tends to rapidly die out. Animals in India, where the disease has been known from time immemorial, possess relatively and actually high immunity against the infection, and doses of lymph five hundred times as large as that which would cause infection in an ox at home may fail entirely to infect the puny, delicate-looking native Indian cattle. Generally, complications excluded, the mortality is slight, save among young animals at the teat, which may develop intestinal lesions and die. In some outbreaks the mortality, even among grown stock, is high, as witness the Barcelona outbreak in 1901, when the percentage of death rose to 70 and over, so much so that it was feared that rinderpest was present. So I think we are justified in concluding that the virus varies in its potency, and such being the case an immunity to one strain of virus may quite break down before another virus.

On the Continent, where they have a greater experience of foot-and-mouth disease than we have, and where outbreaks are not treated so drastically as we find necessary, members of the profession not only treat the cases, but have opportunities of keeping their patients under observation. It is reported that cases occur where the animals die with what is called the apoplectic form of foot-and-mouth disease. In Italy two forms are recognised, according as to whether the animal is young or an adult. In the young the symptoms occur on the earliest sign of infection; in adults during convalescence, when they begin to feed and the milk secretion returns. The animals die suddenly when feeding or drinking, or when being milked, without any previous warning. Sometimes there is dyspnoea, muscular tremors, a tottering gait, grinding of the teeth, and death occurs from syncope without convulsions. In other cases the animals are in a state of complete paralysis.

At the post-mortem examination the constant lesions noticed are referable to the heart. The heart is flaccid, has stopped in diastole; the coronary furrows contain much serum, i.e., the tissues are infiltrated with an oedematous fluid. The heart also shows fatty degeneration, and there is also parenchymatous and interstitial myocarditis. The conditions here observed have been repeatedly noticed by others, even as long ago as 1884 by Johnes, and were especially studied by Kitt. In addition to these heart lesions, lesions may be found in the intestines and especially of those animals dying on the fifth or sixth day of infection with apoplectic symptoms. In the intestines there is a catarrhal and hæmorrhagic enteritis. In most animals examined there is hyperæmia of the central nervous system; the vessels are dilated and filled with blood; there is perivascular infiltration; changes occur also in the nerve cells. All the lesions described are those associated with the action of toxin or a very virulent virus. The cause of death in these cases is usually assigned as due to heart failure, the consequence of the action of the toxin.

Immunity, we may assume, is established to some degree after recovery from an attack of the disease, and animals may be immunised experimentally by inoculation of hyper-immunised serum, or briefly anti-serum, or by a mixture of serum and virus. The immunity

given by the injection of an anti-serum is passive and temporary; that given by the injection of virulent lymph is active but variable. In this country experimental work with foot-and-mouth is not possible; so long as foot-and-mouth virus is in the country there is an infective centre. No matter how careful one may be, there is always the risk of the virus getting out of control, out of the laboratory, and the infection occurring in cattle beyond the laboratory. At least, that is the experience of other countries. We have, therefore, to fall back upon the experimental work done in Germany by Prof. Loeffler and others, and in France by the late Prof. Nocard, Leclainche, Vallée, Moussu, Carrée, and others. The general findings amount to this, that it is possible to prepare an anti-serum; that the anti-serum in large doses is capable of setting up a temporary immunity. The temporary immunity may be strengthened by inoculating protected animals with lymph (old, attenuated or fresh lymph heated and mixed with old lymph, etc.), but the method is costly and risky; costly, because it is necessary to have always at hand a supply of suitable virus or lymph; risky, because of the danger of the experimental station being an infective centre to the country around. So far as I can ascertain, there is no really reliable serum to be obtained, and its only value—and a hypothetical one at that—is that when given in large doses it may protect animals against possible infection, such as, for instance, might occur at an agricultural show.

The injection of virulent lymph even when used in conjunction with an immune serum may be followed by eruption of vesicles. The course of the infection may be modified by the use of the serum, but, as the lesions develop, virulent material is present ready to produce infection if suitable subjects are at hand. The use of virulent lymph combined with immune serum is not a practical method of creating immunity in the field. Serum has been obtained from both cattle and horses after hyper-immunisation. The horse provides immune serum more rapidly than the ox, and its serum is more suitable for the pig and sheep, though not so good for use with bovines. The lymph for use in immunising experiments is provided by swine, which, after developing the lesions from which the lymph is recovered are injected with immune serum.

Another point of importance, showing the impracticability of the use of serum, is that if the serum is able to give protection to the animal injected for a few weeks it is necessary to make repeated injections at intervals to give anything like an immunity or protection lasting twelve months. No method of immunisation is likely to commend itself to professional man and layman alike unless a simple injection with minimum risk is followed by an immunity of some months duration.

Vitality of the Virus. If one has the virus in hand there is no great difficulty in destroying it. A comparatively low temperature is fatal to it, and it cannot withstand the action of even mild disinfectants. Probably it is soon destroyed by sunlight and exposure. It used to be thought that it could not persist long outside the body, and that in a month or two it lost its infectivity and became innocuous. There are good reasons, however, to question this opinion. Prof. Bang has furnished evidence of outbreaks occurring on farms where it was impossible to exclude contaminated fodder in which the infective agent had remained for 12 months. Outbreaks occurred at intervals of 12 months. Incidentally, these outbreaks mentioned by Prof. Bang show that immunity may last for more than 12 months, even two years, because the animals first attacked were allowed to live and they were not infected at the second outbreak. It is possible for virus to reach hay and straw from the boots and clothing of those in contact with diseased animals and that when the hay and straw are used they convey infection. There is little doubt

but that hay and straw infected in the way described do account for the reappearance of the infection upon certain farms.

In Fleming's Veterinary Science and Police is an account of cattle imported to Australia from Britain developing foot-and-mouth disease when nearing their destination and hay being the vehicle of the infecting agent. I am loth to disturb old stories, but perhaps this has served its time and generation. I will, however, improve upon it by giving the truth. My information is from a reliable source and is first hand. The cattle were exported to Australia, being carried in a sailing boat which reached Sydney Harbour 89 days after clearing the Thames. Every precaution had been taken to guard against foot-and-mouth infection, and the fodder was obtained from sources where infection was unknown. If foot-and-mouth disease was due to the fodder, the fodder was infected on board ship. Daily from the time the ship left the Thames until the disease broke out the captain entered into a log his opinion of the cattle's condition. When the boat was nearing Sydney foot-and-mouth disease developed. Here is the explanation. The importer of the cattle sent his own man from Australia to bring the cattle home, and this man, according to the testimony of a sailor who assisted him, when the ship was three days out of Sydney, brought up from the hold a parcel of sheep skins which he had purchased in London. The sailor helped him to put up these skins about the animals to form a screen, that the importer might be impressed with the thoughtful care of his man for the animals he was conveying. The animals became infected either directly from contact with the skins or from contamination of fodder or other food or drink from the skins. There seems to be little doubt that the skins brought in the infection. Incidentally the story supports the contention that the virus may remain potent for a longer time than is generally believed.

I do not think there is much doubt that infection may be introduced by contaminated food stuffs. I see no reason to deny that hay and straw, green food, corn, even milled grain and the usual derivatives, may be contaminated and cause infection when used as food. There are so many things imported nowadays from places abroad where the disease is rife that it is almost impossible to exclude anything as a possible carrier. I am also of opinion that straw and hay used as packing material are dangerous. In certain places large quantities of goods are imported packed in straw and hay, and such may come from contaminated places. At least it is wise in these islands to consider the stuffs possibly infective. I know, for instance, of one case where the packing material, apparently good clean straw, amounts to two waggon loads a week. Despite that it appears uneconomical, that particular straw is burnt rather than any risk should be run. Look at the amount of the stuff coming daily into the United Kingdom from abroad. Not only manufactured goods but also raw material, which may come into contact with food used upon the farm. Railway waggons are not always cleansed as they should be, and when a truck is hired to convey a load the hirer does not know what the truck had just carried. As an instance, I heard once of a load of grains or brewer's draff containing among other things a cow's ear. Apparently the truck had just before been loaded with hides. I don't know if the hides were home or foreign, but the instance shows me the enormous possibilities of infection which exist.

Foot-and-mouth disease is not indigenous to this country, nor do I think it is indigenous to Europe, but it has been known in the East since the dawn of history. It is much more frequent on the Continent than in the United Kingdom, and when it appears in Western Europe there is always the chance of outbreaks occur-

ring in the United Kingdom. In the early days of foot-and-mouth disease in this country, it was remarked that the disease was present on the Continent, and the question was then asked, as now, if the infection could be traced to traffic with the Continent?

The question has been raised as to whether birds may not have something to do with the spread of infection. We know that birds migrate and pass over long distances of sea and land, and that they make long journeys in quite a short space of time. It is possible that birds may carry the virus in their intestines, not that it necessarily increases in amount in the bowel, but infective material taken in with food may be voided in the droppings of birds. In Denmark they are inclined to consider the possibility of birds, sparrows, gulls, and jackdaws spreading infection. In Denmark, as in other countries, every possible route by which infection may enter the country is being considered, and every possible or probable route demands careful consideration and examination.

There are accounts of interesting experiments—and very suggestive—in Italy with flies. Some have considered as possible the fly as a carrier of infection in foot-and-mouth disease, as we know it is of the virus of other infection. Flies may not travel very far, but probably much farther than experiments show. They may be carried down the wind some considerable distance, and they move on their own initiative more than 700 yards even across the wind. It is possible for flies infected with foot-and-mouth virus to go from one farm to another, from building to building, and cattle to cattle. The Italian experiments were with a tabanus, a biting fly. Flies were obtained from a region where foot-and-mouth disease existed, and were liberated in a house where clean cattle, which had been obtained from a non-infected district, and which had been some time under observation, were stabled. The flies were kept in captivity until hungry. They were then liberated and were seen to attack the cattle in the stalls. In three days symptoms of foot-and-mouth disease appeared. There appears to be little doubt in this experiment that the cattle were infected by the flies, and there is no reason to doubt the possibility of flies carrying the virus at this time of day, since we are now so familiar with many diseases, the causes of which are borne by mosquitoes, flies, ticks, etc., not to mention in polite society such social pests as fleas, lice, and bed bugs.

The question has also been asked if infection cannot be spread by manure. There is little doubt that recently passed faeces from infected animals may be infective to others, as pigs, which not infrequently devour the faeces of bovines, and it is possible that fresh faeces soiling litter and fodder and drinking water may prove infective to animals taking such. But can manure, *i.e.* stable and byre manure, infect after it has been stored in the usual way and then spread over land? Probably not, according to Loeffler's experiments. The temperature attained by manure heating in the mass is sufficiently high to destroy the virus. Virus was taken and placed in sealed pipettes and placed at various depths in a heap of fresh heating manure. The temperature reached by the fermenting manure was noted by the thermometer. It is possible for manure a foot or so below the surface to reach a temperature of 70 to 75 degrees C. (158 to 185 degrees F.) a temperature much too high for the virus of foot-and-mouth to survive. The contents of the pipettes were found to be sterile after a week or so. It appears to be a fact, then, that the heating of the manure is sufficient to destroy the virus. Probably new hay contaminated when being put into the rick will also become innocuous by the hay heating in the rick. It is different, of course, with old hay and straw which has passed the heating stage. Old

hay and straw may be contaminated from various sources, and on this the virus may remain uninjured for apparently a long time, as witness the Danish experience.

The main point or points I desire to emphasise is that food stuffs of all kinds may be infected directly or indirectly with the virus, and that such are capable of spreading and do spread the infection. It is possible also that the virus may be carried some distance by the wind, infective saliva may be blown some distance, certainly in the next pasture over the hedge, and when we remember the potency of the virus, a very minute quantity will suffice to set up infection. Probably also the ground—roads to wit, may become infected by the discharges of diseased animals which have passed over or along them. The virus may be transferred from one place to another not only by human agency; we all know the curiosity of people, the village parliament held whenever an animal is ill, and the examination made by the wiseacres of the district. Some Italian writers trace infection spreading from farm to farm to tramps, tinkers, and other wanderers who, sleeping about ricks and in barns, carry the infecting agent from one place to another. We know of the handy man called in to treat stock which the owner is too ignorant to do himself, or too negligent of his own interests to apply for help to his veterinary surgeon. Such persons handling animals promiscuously, and with little real knowledge of disease, are a serious menace to the live stock trade of the country, and I am surprised that the Ministry of Agriculture does not make some effort to suppress the quack. In addition to human agency, dogs and other animals, including ground game, may be vehicles for conveying virus from one part to another. We are all familiar with the vagrant dog and the distances he may cover in a night. When rabies was common with us in the United Kingdom we had plenty of evidence of the far afield excursions of dogs. It is believed by some that the infection may be water borne, and I see no reason to believe it is not possible. I can imagine animals with foot-and-mouth disease drinking at a stream, laving and washing out their mouths, the longropy strings of saliva flowing away on the surface of the water, entangled frequently in straw, or leaves, or what not, and eventually reaching other drinking places a long way down stream. And so on, we can conjecture many possible sources, or rather routes by which infection may reach a place.

The major problem, however, is, where does the virus come from? To this there is the certain answer which no one can gainsay, that the virus must have come from another case of the disease. There is no question of spontaneous generation; that is unthinkable at this time of day, at least among those who have given any thought to or had any experience of epizootic diseases. Every cell from a cell, every animal from an egg, every infectious disease from a similar infection, a common cause operating in every instance of the same disease. Anthrax and other bacterial infections are due to a specific cause, which can ultimately be traced to an animal infected by the same agent, the germ of the disease, and there is no reason to believe, though we have not yet seen the germ causing foot-and-mouth disease, nor have obtained it or grown it in pure culture, that it is any way different in its action from the cause, recognisable cause, as the bacillus of anthrax in the production of disease. That being so, we again come round to the ever recurring question, where does infection come from to reach the cattle in these islands? Is infection imported from abroad, and if so by what channel does it come? If not, how does foot-and-mouth disease escape the observation of the profession in the daily grind of its work? If foot-and-mouth disease were indigenous to this country, or had become a recognised—naturalised, if you will, disease, then we

could understand why it was more rife at certain times than others. But it is not indigenous, nor is it naturalised here. It is an invader—an alien. As I have previously remarked, an outbreak is dealt with by the authorities. Sick and in-contacts are destroyed, the centre of infection is wiped out, no animals, possible carriers of disease, are allowed to remain. If recovered animals were permitted to live, we could believe it possible they acted the *role* of carriers of the virus, but in the United Kingdom there can be no bovine carriers of foot-and-mouth virus. If evidence of this is called for, negative evidence alone is forthcoming, but it is as good in this instance as positive evidence; the disease does not as a rule appear a second time at the same farm. If it does very exceptionally, then there is an easily recognised reason, contaminated material, hay, straw, etc., has been allowed to remain.

It will be concluded from what I have said that we know little as to where infection comes from. I refer, of course, to initial outbreaks, isolated outbreaks when the country has been declared free from infection, and has remained free for months and years. The information we all desire is the source and the routes by which infection reaches our flocks and herds. There are many conjectures, there are not a few suggestions, but what we want are indisputable facts, and having got them we shall know what to do and when to do it.

Diagnosis. In the diagnosis of foot-and-mouth disease there are several factors to be considered. These are the character and site of the lesions, the number of animals affected and the species, and the history of the outbreak. Usually there is little difficulty in arriving at a diagnosis when the lesions are typical and a number of animals affected—bovines, and it may be sheep and swine. There may or may not be history of contact direct or indirect. In the absence of history one has to rely upon the characters of the lesions and their site, and the fact that a number of animals are affected simultaneously. I consider also the symptoms manifested are important, and due weight must be given to them. There are however cases arising in which there is room for doubt, where diagnosis is neither simple nor easy, and where caution must be exercised. If there is any doubt at all in the mind as to whether it is foot-and-mouth disease, it is wise to put restrictions into force until it can be shown definitely to be the disease or not. Little harm, though some inconvenience can be caused by putting on restrictions, but serious loss may follow failure to diagnose with no restrictions upon the movements of affected animals.

As everyone knows, there are cases of stomatitis occurring which are not due to the virus of foot-and-mouth disease. Stomatitis may be due to a variety of causes—infections of various kinds, mercurialism, fungi, etc. But these cases of stomatitis are not associated with lesions upon the feet, and if lesions occur upon the limbs they are not confined to the predilection sites of the lesions of foot-and-mouth disease, but rather they are of the nature of a spreading dermatitis extending upwards even to the body. Lesions may occur upon the udder in foot-and-mouth disease, but these lesions on the udder will be associated with lesions in the mouth or on the feet. Foot-and-mouth lesions on the udder without mouth or feet lesions are extremely unlikely. The udder lesions occurring with the greatest frequency in practice are the so-called "milk boils," which are truly boils, due to staphylococci, and lesions of cow-pox. Cow-pox lesions usually run a perfectly definite course which can be readily observed. In sheep, lesions of the feet due to foot-and-mouth disease are not likely to be mistaken, even when associated with the condition described as *impetigo facialis et labialis*. Any cattle or swine upon the same pasture remaining free from any lesions or symptoms will indicate it is not foot-and-mouth disease.

As to stomatitis, various forms have been described, but I will satisfy myself by describing the one observed in Ireland, discovered by the veterinary officers of the department and cleared up by the department in a series of experiments in which I was privileged to have a share. The stomatitis has no effect whatsoever upon the health of the animal, which apparently does not suffer any inconvenience at all. There are no mouth symptoms whatever. The animal feeds quite normally. The condition is noticed at the time of mouthing the animal, and until the mouth is opened and the condition of the mucous membrane attentively examined nothing is suspected. Sometimes the appearances presented are alarming, especially when one is "keyed up" and on the outlook for foot-and-mouth disease. But a little thought and a careful study of the facts will prove the difference. The lesion begins in the superficial epithelium of the lips, gums, or tongue. At first it is a brownish spot which enlarges peripherally. The epithelium involved separates off in flakes which are perforated (on the tongue) with apertures through which the papillæ passed. A number of lesions may begin simultaneously and extending eventually coalesce. They all show the brownish discolouration and exfoliation of the epithelium. Eventually the tongue shows large areas denuded of superficial epithelium, with broad low ridges of old epithelium persisting. These are the boundaries of adjacent lesions. In time all the old horny epithelium is lost and the tongue becomes quite clean and soft like that of a young calf. There never at any time is any exposure of corium, never at any time formation of vesicles, never at any time soreness of the tongue, drivelling of saliva or other sign of irritation. There never is any lameness or other lesion upon the body even remotely suggesting foot-and-mouth infection. The condition is found chiefly in young stock, rarely in full grown cattle, and it is not inoculable to sheep nor to swine as it is to young bovines. The condition is not one likely to be met with by ordinary practitioners, they will never be called in to treat it, and it is only likely to be encountered by those whose duty it is to mouth animals—to examine stock for mouth lesions of foot-and-mouth disease.

I could go on longer, but I am sure I have exhausted your patience. Still, any information we can give, and I hope to get a good deal of information from the discussion which will follow, will be of benefit to us all, whether we are practitioners likely to meet with the infection in our daily work in the field, inspectors under central or local bodies combating epizootics, or merely students and teachers watching and waiting for the facts collected by those immediately in contact with the disease.

DISCUSSION.

Mr. TRIGGER initiated a discussion, and said he had listened with intense interest to the very up-to-date address which Prof. Mettam had given. It was very difficult to know, as they had just been reminded, how foot-and-mouth disease came into the country. He was taught, as a student, that the first outbreak in England was in 1839, and it was not until 1842 that any imported cattle were brought into this country. At that time the disease had been raging in Hungary, Italy and Germany, and it reached these coasts three years before any cattle came. The suggestions of Prof. Simonds in those days were as Prof. Mettam had said, cattle might have been smuggled into England, or an odd cow might have been kept on board ship to give milk to the sailors. We were also told that gallinaceous birds were to be watched with suspicion. He (the speaker) did not accept the theory that foot-and-mouth disease occurred in man. He had never seen it in man, or anything that could be likened to foot-and-mouth disease in man. In the early days, when the authorities were not very

particular, Dr. Erasmus Wilson experimented with children in St. Pancras workhouse without any ill effects. Again, he had never seen it in dogs, but he had seen it in hundreds of cattle, sheep and pigs. Prof. Simonds told him that dogs could eat the flesh of affected animals with impunity, but he agreed that they might be carriers of the disease. When they considered the virulence of the disease, it was easy to imagine that a little saliva falling on a leaf and being blown from field to field, would help to spread the disease, and that under those circumstances it would be most difficult to stamp out.

Everyone would agree with the diagnostic symptoms which Prof. Mettam mentioned, but as an old practitioner who had seen a lot of the disease in his time, if they were to put him (the speaker) blind-fold in a cowshed he could tell them whether foot-and-mouth disease was present or not. Stand still, and they would hear a sound which he could only compare to a young man kissing a young lady very heartily. There was a very distinct smack. The shaking of the feet was another characteristic which there was no mistaking.

Prof. Mettam had spoken of the extraordinary rapidity with which ulcers healed. One need not open the mouth; just look at the top lip or the tip of the tongue. For some time the ulcers left a very characteristic lesion for 12 or 14 days; the ulcers as they disappeared left an ugly scar or dry scab. In pigs the lesion was not in the mouth but on the outside of the lips and on the feet, and the mammary glands of suckling sows became very badly affected.

The restrictions which had been enforced, though very severe, had been abundantly justified. If a man got the disease in his stock at all it went right through, it was not confined to one animal. Complete isolation and the most drastic treatment had proved the best means of combating the trouble.

Mr. LAITHWOOD said they had yet a great deal to learn on this subject, and he thought there was work for a Royal Commission. Foot-and-mouth disease had been very rare since he commenced to practice, and therefore he knew very little about it, but he was interested in what Mr. Trigger had said as to being able to diagnose it blindfold.

Mr. A. OVER said that in the few cases he had met with he had found the feet more troublesome than Prof. Mettam had suggested. He had not seen the disease in sheep.

Mr. GOLD said that as a former colleague of Prof. Mettam it gave him great pleasure to welcome him at a meeting of the Midland Association. "I was interested in what he said about the incubative period being from two to four days," proceeded Mr. Gold. "I would like to mention a peculiarity in connection with the outbreak at Redditch, and I think there was no doubt in the minds of the veterinary profession that it was a typical case of foot-and-mouth disease. These animals, 12 good bullocks bought in Ireland, were landed at Birkenhead, and kept there under observation for eight days. Then they were passed on to my district as being free. The owner had these beasts on the Tuesday. On the Sunday he told me what had taken place, and asked me if I thought they were free. I said that my experience was limited, but I did not think he was free because there was a possibility of the lairages at Birkenhead being infected. No sign whatever was seen of these bullocks being infected till the Friday following, when two animals were affected with foot-and-mouth disease. It was strange to me. I had always understood that the incubative period was from two to six days at the most, and I feel confident that the disease was picked up after the animals left Ireland. They probably became infected at the lairages at Birkenhead, because they were there for eight days, and then it was another ten days before

they developed the disease. I think it is only reasonable to believe that they did not get it in Ireland."

Mr. MARTIN said that in 1881 he saw 600 Canadian cattle in the docks at Glasgow affected. Hardly one escaped. Soon afterwards, he went into Cheshire, and there was a very bad outbreak there. The London and North Western Railway ran through the farm, and it was believed that something was thrown out from a passing cattle train that caused the trouble. He had never seen such a horrible and pathetic sight in his life as the sight of those animals suffering. Nowadays, he was glad to say they were spared that experience, because all affected animals were slaughtered immediately.

Mr. TIPPER said there was another aspect of the matter upon which he would like to speak. Prof. Mettam had mentioned the possibility of the disease being disseminated by means of hay and straw and food stuffs. He (the speaker) recently brought to the notice of the Board of Agriculture and the Royal Agricultural Society the fact that ground dried livers of animals had been sent over to this country from abroad to be used as food stuffs. It had occurred to him that there was a possibility of the disease, or of any other disease for the matter of that, being communicated in that way. He would like to ask Prof. Mettam whether foot-and-mouth disease was prevalent in China, because if so that might be another source of infection. In going round farms he had noticed young paying particular attention to pigeons, and he fancied pigeons might be another means of spreading the infection. As a member of the Executive Committee of the Worcestershire County Council he was particularly interested in this subject, and information upon it, especially in relation to its origin and source, would always be welcomed.

Mr. FORSYTH said it was 30 years since he saw a case of foot-and-mouth disease, but he would like to mention a few cases that occurred in dogs. The opinion of the late Prof. Williams was taken and he declared that the trouble was foot-and-mouth disease. It was very prevalent at the time, and he had never seen anything like it. He also saw some hares with similar vesicles on their feet and that might help to account for the disease spreading. He had seen animals with lesions in the mouth and on the coronet, and had also noticed them shaking their feet, but he had never noticed the "smacking" sounds referred to by Mr. Trigger. He could endorse all that had been said about the rapidity with which the lesions healed. His first experience of the disease was when he was assistant to the late Mr. Olver, and he thought he was looking at a different lot of cattle altogether to what he saw a few days before.

Mr. DEVINE said he had not had much experience of the disease, but of course he had studied it to some extent, and there were one or two points raised by Prof. Mettam which were new to him. The Professor had referred to stomatitis affecting cattle in Ireland which was at first thought to be foot-and-mouth disease, but which proved not to be so. It was evidently different from the ordinary stomatitis they met with in cattle. As far as he knew, and what he had read, it was a very extraordinary thing to get an isolated case with one or two animals affected at a farm. Foot-and-mouth disease was such a wildfire thing that it got all over a large area before they knew where they were. He had not had the experience of those who saw all those cases that occurred thirty or forty years ago; he had seen the dried specimens in the laboratory, and, speaking theoretically, where they got one case of foot-and-mouth disease they probably got 20 reported that were not. He should be glad if Prof. Mettam in his reply would explain the difference between the stomatitis in the North of Ireland which was mistaken for foot-and-mouth disease and the stomatitis which they ordinarily met with in their country practices.

Mr. BURCHNALL said that as the symptom mentioned by Mr. Trigger had been made fun of, he might say that 35 years ago, when he was practising in Derbyshire, the disease was known locally as "the smack." He was very young in the profession then, but he did a lot of inspecting and he could bear out every word that Mr. Trigger had said. A characteristic shake of the hind foot and a decided smacking sound with the mouth was considered a pretty safe diagnostic in those days. He also remembered when he was a boy at his own home they had cattle suffer twice in the same year from the disease, in the spring and in the autumn. It affected the feet of sheep decidedly more than the mouth, but in the case of cattle it affected the mouth more. His father was a sheep breeder and their greatest trouble was the appearance of the disease in the neighbourhood.

The PRESIDENT said he could not sufficiently thank Professor Mettam for his address, which was one of the best and most instructive they had ever listened to. The subject, too, was of profound interest to them all. The present action of the powers that be stamped the disease out very rapidly, and herd owners were protected from the loss which the ravages of the disease inflicted a generation or more ago. At the same time he thought the Board of Agriculture were a little remiss in not giving the younger members of the veterinary profession an opportunity of seeing the disease. (Hear, hear). He had done his best to get the Board to show it to their members, but to no purpose; he was told that he could see specimens in the bottles in the laboratory. It was to be regretted, because they could best learn by studying the disease first hand.

REPLY.

Prof. METTAM thanked the meeting for the kind reception they had given to his paper. Mr. Trigger had referred to what occurred in the early part of last century. Foot-and-mouth disease was not prevalent in this country till about 1840, but from that time onwards there was a series of outbreaks every ten years or so up to 1880, when there was a tremendous big outbreak which lasted for three years. There was no doubt that foot-and-mouth disease was raging on the Continent prior to 1839, and veterinary surgeons in this country were familiar with the fact. Long before then foot-and-mouth disease raged on the Continent, and as long ago as 1814 it was suggested that people should inoculate their cattle against it, and the way they did it was a practice in vogue in Europe at the present time. They wiped out the mouth of the infected animal with a cloth and then allowed the other animals to chew this cloth, and they became infected; or they took a wisp of hay soaked with infected saliva and rubbed it into the mouth. Mr. Trigger doubted whether foot-and-mouth disease occurred in man, but he (the Professor) thought there was no doubt about it. He could tell them of a case where material was taken from vesicles that developed in a man and inoculated into a calf, and the calf developed foot-and-mouth disease. Mr. Trigger also demurred at the suggestion that the disease appeared in horses and dogs, but he thought Sir Stewart Stockman had seen it in the dog, and it had been clearly seen in the horse. He had not mentioned all the symptoms of the disease in his paper, but he always understood that smacking of the lips and shaking of foot were diagnostic signs. He was extremely pleased to hear Mr. Gold's account of the Redditch cases. He had heard of them in Ireland, and could not understand, if they contracted the disease in Ireland, how it was they should defer showing signs of it so long. It must have been 18 days after they left Ireland before the disease manifested itself. Obviously, the disease was contracted in the lairages at Birkenhead, if not later, and Mr. Gold's

story confirmed his view that the trouble was not traceable to Ireland.

Mr. Tipper's contribution to the discussion was extremely valuable. This question of imported dried flesh of different kinds was of great importance. He had had no experience of ground dried liver, but he knew of ground fish meal, which was somewhat similar, and apparently in Germany a number of cases of anthrax in swine had been attributed to it. Mr. Tipper asked if there was foot-and-mouth disease in China; he could not answer that question positively, but it was a matter that ought to be looked into, as a lot of food stuffs came into this country from China, even pork for human consumption. Mr. Forsyth's remarks were interesting as regards the presence of vesicles on the feet of hares, as it confirmed his view that ground game was a ready means of spreading the disease. Mr. DeVine wanted to know more about stomatitis. He had tried to be clear as to that which he saw in Ireland, but there were many different forms of stomatitis, and such cases arose from different causes. In the Irish case, the trouble was of such a mild nature that no one would believe that the animals were suffering from anything at all, and it was only when one took out their tongues that one could find anything wrong with them. The animals were thriving in the best condition in the field, and farmers in the North of Ireland, like farmers in the Midland Counties, were not likely to employ a veterinary surgeon to treat an animal that was not suffering from anything serious.

Votes of Thanks. The HON. SEC. moved a vote of thanks to Prof. Mettam, and said that they must all have appreciated the address they had listened to. It was full of information that was useful and quite up-to-date. Prof. Mettam occupied a very honoured position in the veterinary world, and this Association was glad to welcome him in their midst.

Mr. DeVine, in seconding, said he was the first student to go to Prof. Mettam in Ireland, after previously starting his career under him at Edinburgh, and he looked upon Prof. Mettam to-day as a close personal friend.

Mr. Gold and the President briefly supported the motion, which was heartily carried.

A vote of thanks was also accorded to the President for his services in the chair.

SPECIMENS.

Mr. YOUNG brought some interesting post mortem specimens of cases that had recently occurred in his practice. One was a dislocation of the femur in a horse where the head of the femur was totally worn away. Another case was a fractured pelvis in a dog.

The members had tea together before separating.

H. J. DAWES, F.R.C.V.S., Hon. Sec.

The Diagnosis of Glanders.

The February Bulletin of the Department of Health of the City of New York gives an account of the methods of diagnosis there employed. Human deaths from glanders in New York average about 3 a year, the highest number recently being 5 in 1912, and the lowest 1 in the following year. When a case of glanders is recognised in a stable, blood is taken from all the other horses and examined by the complement-fixation test. This is analogous to the Wassermann reaction as used in the diagnosis of syphilis, the antigen being prepared from pure cultures of bacillus mallei. If a positive reaction is obtained, the animal from which the blood was taken is then examined further by means of the conjunctival test, analogous to Calmette's reaction in tuberculous human beings, four or five drops of undiluted mallein being dropped into the conjunctival sac. In

infected horses a reaction commences within six or eight hours and may last from 36 to 48 hours, the eye becoming inflamed and giving rise to a purulent secretion. These two tests applied together are held to give a certain diagnosis, and animals which react to both are destroyed on the strength of them. Other tests for the disease are the intradermal method of injecting mallein, by which a localised swelling in the skin is produced in infected horses, and the agglutination reaction, in which a positive result in a dilution of 1:1000 or over is held to indicate the existence of glanders. The original method of subcutaneous injection of mallein does not seem to be now so often employed, but with care it is also capable of giving reliable results, a rise of temperature of not less than 2.5° F. being considered positive evidence, the temperature of the horse's body rising to at least 103°. Horses which have been exposed to infection, but which give a negative reaction to the tests used, should be examined again after 15 days' interval. It seems that the agglutinins are the earliest antibodies to appear in the course of the infection, being present within the first four or five days. The specific amboceptors upon which the complement-fixation test depends are likely to appear within a week or ten days after infection, while the conjunctival reaction cannot be relied upon to appear before the lapse of three weeks. It must further be remembered that an injection of mallein for diagnostic purposes may itself give rise to the formation of antibodies, which may remain for six or eight weeks, while a vaccine of glanders bacilli may cause the continued presence of these bodies for a period of three months or more.—*The Lancet.*

Hunting Memorial Fund.

Subscriptions received up to 7 p.m., May 27th, 1914.

	£	s.	d.
Amount previously acknowledged	302	18	6
Mr. A. Spreull, sen. (F), Ward Rd., Dundee	1	1	0
J. Spreull, Umtala, Cape Colony	1	1	0
D. Wyllie, Tudor House, Staines	1	1	0
The Midland Counties Veterinary Assoc., per			
J. J. Burchnall, Esq., Hon. Treas.	10	10	0
	£316	11	6

In the list of subscriptions received it was stated in *The Veterinary Record* of Jan. 31st, that Capt. E. C. Russell, A.V.C., Quetta Club, India, had subscribed £1 ls. to the Fund, whereas the amount actually received was half-a-guinea.

In the list of May 13th, 1914, Dr. J. G. Rutherford's subscription should have been £1 ls., and not £1 0s. as stated.

The total amount received up to 7 p.m., Wednesday, May 27th, 1914, is therefore £316 2s.

HENRY GRAY, Hon. Sec. & Treas.

23 Upper Phillimore Place, London, W.

Cheques endorsed "Hunting Memorial Fund" and crossed "The London, City and Midland Bank, Ltd."

An Advance in Crystallography.

Ocular evidence has been obtained which substantiates the modern theory of crystal structure upon the position of the atoms. By passing, for example, the X rays through a crystal an interference photograph is obtained of what is called the space lattice of the crystal. It would appear that this has afforded the first visible proof of Dalton's atomic theory.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, May 26.

TERRITORIAL DECORATIONS.

The King has been graciously pleased to confer the Territorial Decoration upon the following Officers of the Territorial Force, who have been duly recommended for the same under the terms of the Royal Warrant dated Aug. 17, 1908:—

* * *

ARMY VETERINARY CORPS.

Major J. W. Coe.

Personal.

ROWSTON—PORTER.—On May 12th, at St. Peter's Church, Dorchester, by the Rector (the Rev. H. C. Coote), Capt. William Neville Rowston, A.V.C., son of Mr. and Mrs. Robert Rowston, of "Casterbridge," Dorchester, to Eveline Louie, second daughter of the late Mr. William Henry Porter and of Mrs. Porter, of Icen Cottage, Dorchester.

PAINE—BULL.—On May 16th, at East London, Cape Colony, Florence Bull, of Kensington Park Road, Bayswater, W., to Richard Paine, F.R.C.V.S., of Bessels Green, Sevenoaks.

MR. T. R. R. HOGGAN, M.R.C.V.S., of Vancouver, B.C. was judge at the Spring Show of the Irish Terrier Club of the Pacific Northwest, held in the second week of May, at Seattle, Washington State.

OBITUARY

E. H. SCOTT, M.R.C.V.S., 727 High Road, Leyton.
Graduated, Lond: July, 1881.

Mr. Scott died suddenly on May 26th Aged 60 years.

MR. NORMAN C. CARUTH, Solicitor, Ballymena, County Antrim, Ireland, asks that any person having any documents relating to the late Major Millar's estate will please communicate with him.

CORRESPONDENCE.

NATIONAL ASSOCIATION OF VETERINARY INSPECTORS.

Sir,

In reply to "A" Mr. Spencer in your last issue, may I say he should have done me the justice to have quoted the whole passage in full, as it appeared in the report of the Royal Counties meeting, but that would not have suited his purpose. Even then he would not have been quite correct. What I did say was "The idea seems to be pretty general that the National Veterinary Inspectors' Association appeared to be *non est*, nothing tangible having been done by them of late." I might have added, had I been the selfish individual he wishes to infer, "That it were better it had never been born" with perfect truism, inasmuch as the first evidence of its existence was the reduction of the scale of fees allowed us by our County Council and Municipal bodies to the tune of 33 per cent.

We accepted the result of this policy of "levelling down" without a murmur, after having done our best at the general meetings and in Committee to keep the process within reasonable limits in the general interest.

In my advocacy of Inspectors' Sections at each meeting I have visited I have stated "that any matter of sufficient importance discussed at these sectional meetings could be handed through myself to either of the National Societies—having hitherto regarded the National Inspectors as an affiliated body—and on two of these occasions I have been met by the statement that the latter body was practically defunct, at any rate it had given no evidence of existence of late; further, many applications have been made to me by veterinary inspectors, widely distributed, and by two County County clerks for copies of the Kent scale and the pamphlets issued by the National Veterinary Association, nothing else being obtainable, apparently. From this you may judge there is some real reason for the apology to a "few members" of whom *fortunately* I am not one.

I am fully aware of the labour of drawing up and tabulating a list of fees. The real labour is in getting replies. This has been done for Mr. Spencer by the National V.A. months prior to the existence of the N.V.I., who utilised the scale and other information thus obtained for their effort—with scant acknowledgment—unless I may take his letter as such.

My object in advocating sectional meetings at Societies is to unite the profession, thus preventing, to some extent, that conflict of opinion and jealousy which exists to-day between those who are, and those who are not veterinary inspectors, and which causes that fear of "asking for more" with any insistence, inspectors knowing full well there are plenty ready to accept existing conditions—or even less. The policy of dividing the profession into two bodies, inspectors and non-inspectors, by a fine line is, to my mind, a folly, and will only tend to increase this unsatisfactory state of affairs. Without an Act of Parliament it will be impossible to force any local authority to adopt any particular scale; the bargain still has to be made between the local veterinary inspectors and the local authorities, as Mr. Simpson in his letter—which I, too, particularly wish you to read—clearly shows. I can see no reason why veterinary inspectors should not combine, as I suggest, excepting that shadowed forth in his letter—that it may be the intention of the N.V.I. to form independent sub-branches—the very thing he apparently deprecates in the next paragraph.

Now what is this "most important communication" to which I, as a Vice-President of the N.V.I.A. have neglected to reply? The only document I have received that needed one was a query as to the fees paid by local authorities in Kent—a practically useless one so far as we were concerned. They were well known to Mr. Spencer and every one interested. However, it was answered. I arranged, and Mr. Crowhurst, the President of the South Eastern Veterinary Association, undertook to fill in his form which applied to the whole of us—a collective answer perhaps Mr. Spencer did not appreciate fully. Had Mr. Spencer had as many opportunities of hearing what has been said regarding the inaction of the N.V.I.A. as I have had, he would have come to the same conclusion many others beside myself have done—"that the Society appeared to be practically *non est*." If my pin-prick has aroused it from somnolence I am glad. I have no wish to attend its obsequies as your generous (?) correspondent seems to think.

The real object of Mr. Spencer's letter is too patent to need comment—beyond that it may defeat its own ends. Thanking you—I am, yours very faithfully,

THEO. C. TOOPE.

CORRECTIONS.

In last week's issue, p. 766, in Mr. Morris's reply, 25 lines from top of first column, the passage should read: "diluted by the whole volume of the blood. Where, on the contrary, the inoculation has been made (if I may so express it) *up stream* from the focus of infection," etc.

In Mr. John Brown's letter, p. 767, second line above the prescription, "and in one goat," should read, and in one foal.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1352.

JUNE 6, 1914.

Vol. XXVI.

THE ANNUAL GENERAL MEETING.

Little need be said of the annual general meeting, and that little cannot be complimentary to the profession. Everything had encouraged the hope of a good meeting—the fine weather, the important and varied report to be discussed, and the absence of a counter-attraction at Epsom. Despite this the attendance was little, if at all, better than usual, and there was practically no discussion. More than half of those attending were past or present Councilmen or examiners—another illustration of the indifference of ordinary members to our annual meeting.

Time will show whether the projected readjustment of the date of the meeting by our next Charter will enable better meetings to be obtained, but we do not hope much from it. The date of the meeting has been altered by Charter before, and the result was not what had been hoped. What is needed far more than any change of date is that members generally should shake off their apathy towards the public affairs of the profession. The most fatal evidence of that apathy is the fact that the few men who do attend these meetings are, to a very large extent, the same men year after year. Almost every man present last Wednesday was known to all the rest. Nearly all were regular attenders at the annual meeting, though only about half were Londoners. When we consider how large a proportion of every annual meeting is made up of these few regular attenders, the indifference of the rest—especially the London ones—becomes a disgrace to the profession.

JOHNE'S DISEASE.

"Our Birmingham abattoir statistics show that nearly as many carcasses are condemned from Johne's disease as from tuberculosis." These words in Mr. Malcolm's presidential address, printed last week, must have surprised many. Most of us agree that Johne's disease is more common than we know, but few thought it to be so common as this. Coming from such an authority, the statement should lead practitioners who have not yet seen much Johne's disease to search for it carefully. It should be remembered that the disease was first recognised in England less than ten years ago, that it certainly existed long before that and was often mistaken for tuberculosis or parasitism, and that it may quite conceivably be often so mistaken still. More searching enquiry may indicate the advisability of scheduling it.

FRACTURE OF THE OS PEDIS TREATED BY BIER'S METHOD.

Lemère and Ducrotoy record (*Rev. Vet Militaire*) the case of a fifteen-year-old mare which, after an accident in the riding school, showed very severe lameness.

The foot was warm and very sensitive, rotatory movements of it caused excessive pain, and to bear weight upon it was impossible. The injection of cocaine on both sides of the fetlock joint caused the disappearance of the lameness. After some days the diagnosis of fracture of the pedal bone was made.

The treatment consisted in warm foot-baths and the application of a Bier's bandage in the middle of the cannon region for a period of ten hours daily. After twenty days a groove was made round the hoof beneath the coronary cushion, and the coronet itself was sharply blistered.

Two months after the accident all the lameness had disappeared. Afterwards the mare died from a meningo-cephalitis, and the pedal bone was examined post-mortem. It was found that a triple fracture had occurred, which had become united by a callus projecting relief-like from the bone.

The authors conclude that it is indicated, in a phalangeal fracture, to make use of the nutritive and regenerating effects of venous hyperæmia. —(*Berliner Tier. Woch.*)

A CASE OF MAMMARY TUBERCULOSIS.

H. Bombard, of Weidenberg, a district veterinary surgeon, records the following case. He was called to a cow which he was informed had calved three weeks before, and since that time had had a swollen udder. The appetite and general condition were good. Bombard's examination revealed a hard solid enlargement of the udder without the formation of nodules. The anterior teats were only giving a little milk, and the posterior ones none at all. Bombard gave the opinion that a complete recovery could not be expected, and that at the most a partial reduction of the swelling might be attained.

The treatment adopted was the rubbing in of a 10 per cent. iodine ointment, massage, warm potato poultices, and frequent milking out. Four days later the owner reported a general deterioration. The cow had almost ceased to eat for two days past, she gasped a good deal, the udder was still more swollen than before, and the animal showed more pain. Bombard at first thought of iodine poisoning, but a clinical examination gave no support to this view. During the next fortnight the

cow became very thin and had scarcely any appetite, and therefore she was slaughtered.

Post-mortem examination revealed tuberculosis of the udder, and miliary tuberculosis of almost all the internal organs. Bombard suspects that the tubercle bacilli were forced into the blood stream by the massage and rubbing of the udder, thus causing generalisation. He remarks that an examination of the milk might perhaps have led to a diagnosis of tuberculosis, while on the other hand, the absence of nodules from the swelling, its short duration, and the fact that it had arisen at parturition, rather indicated an infection by some other agent than the tubercle bacillus. He adds that the case is a warning against treatment by massage in any inflammations of the udder which may be of tuberculous nature.—*Munchener Tier. Woch.*

CIRCULAR RESECTION OF THE TRACHEA AND PRIMARY SUTURE.

Josef Mares, of Brunn, reports (*Esterreich. Wochenschr. für Tierheilk.*) the results of experiments he has made in the operation of removing portions of the trachea by circular resection and uniting the fresh healthy cut surfaces of the tracheal wall by a suture. The fact that stenosis of the trachea is a not infrequent result of tracheotomy in the horse led him to make these experiments. As experimental material he used four horses (anatomical subjects) and four dogs. In his article he sketches the anatomical relations of the trachea, and discusses the operation and its indications, the clinical course, and the pathologico-anatomical and microscopical results, and finally he arrives at the following conclusions:

1. The most advantageous method of removing stenosis of the trachea consists in total circular resection of the stenosed portion, followed by primary suture of the trachea.
2. In the posterior half-periphery of the trachea the sutures should be internal, and in the anterior half-periphery external.
3. Iodized catgut is a very good suture material.
4. The operation should be performed with the head hanging downwards.
5. Prophylactic tracheotomy below the site of the operation is not necessary.
6. In the after treatment, it is absolutely necessary that the head and neck should be fixed in a bent position.
7. As regards the length of the portion of trachea which may be removed in the horse, Mares' experiments upon the dead subject led him to fix six tracheal rings as the maximal limit. This length suffices for even the most extensive stenoses.—*Berliner Tier. Woch.*

BOVINE ANTHRAX OF THE LYMPHATIC GLANDS.

Haffner, director of the abattoir in Düren, records (*Zeitschr. f. Fleisch u. Milch-hygiene*) a case of this nature. The existence of anthrax was bacteriologically proved beyond all doubt, and the case is noteworthy because it shows that the

hæmorrhagic "necrotising" inflammation of isolated lymphatic glands which is regarded as pathognomic of anthrax in swine occurs also in the ox.

The subject, a cow, showed symptoms suspicious of anthrax, which completely subsided. A swelling upon one side of the neck then developed, and the cow was slaughtered on account of lack of milk. Post-mortem, the spleen was found moderately enlarged, and hard and firm in consistence. The tissues pertaining to the swelling in the neck were saturated with a hæmorrhagic jelly-like material.

The left submaxillary lymphatic gland, and some lymph vessels lying in the region of the pharynx, œsophagus, and trachea were enlarged to many times their normal size. Upon section, they were friable and their inner layers were brick red. The left retropharyngeal lymphatic gland was the size of an apple, and showed the most marked lesions of anthrax. The left tonsil was considerably enlarged, and upon section it showed "marblings" similar in colour and nature to the affected lymphatic glands.—*Berliner Tier. Woch.*

TUMOUR IN A HORSE'S RECTUM.

Leicht, of Isen, records the case of a two-year-old stallion, which was attacked by colic in the evening. At first the most striking symptoms of illness were sweating, violent straining to defecate, and a moderate degree of restlessness. Rectal examination was carried out the same evening, and yielded a surprising result. About nine or ten inches in front of the anus a swelling the size of a man's fist could be felt projecting from the right wall of the rectum and narrowing the rectal lumen. The fæces were impeded by this new growth to such a degree that the balls of dung were firmly pressed together, and could only be removed gradually, in small portions, and with difficulty. The new growth itself was smooth upon its surface, covered with mucous membrane, and insensitive. It felt elastic, and could be drawn forward to a certain degree. Its form was egg-like, but somewhat flattened on two sides.

At first the treatment consisted in manual removal of the faecal masses in the rectum, and the administration of a light purgative and soft food. The next day an iodine preparation (iodvasoliment) was applied to the new growth by the following method:—A tube of durite was fastened by one end to the needle of an injection syringe, and the other end was fitted to the mouth of the syringe. Syringe and tube were then filled with iodvasoliment. The needle and part of the tube were introduced into the rectum. The needle was inserted into the centre of the growth, and then turned in four different directions, while, by the help of an assistant, the contents of the syringe were gradually injected. About 6 c.c. of the iodvasoliment were thus introduced into the tissues of the growth.

The result was favourable. After eight days the swelling had shrunk to half its former size, and after three weeks it could scarcely be felt. There was no recurrence. During the first eight days the horse only received soft food in small quantity.

After this time the earlier feeding was resumed, and the horse was put to light work.

The author suggests that the tumour may have been a lymphadenoma or a lipoma, but remains uncertain on that point.—*Münchener Tier. Woch.*

W. R. C.

Royal College of Veterinary Surgeons.

ANNUAL MEETING.

The Seventy-first Annual General Meeting was held at the College, 10 Red Lion Square, London, W.C., on Wednesday, June 3rd. The following members signed the attendance book :—Messrs. N. Almond, G. A. Banham, Dr. O. Charnock Bradley, Lieut.-Col. E. R. C. Butler, Messrs. J. Basil Buxton, W. Roger Clarke, J. C. Coleman, F. W. Garnett, F. L. Gooch, Sir John M'Fadyean, Messrs. H. A. MacCormack, W. J. Mulvey, T. Salusbury Price, William Reekie, Jas. Rowe, William Shipley, Sidney Slocock, Sir Stewart Stockman, Mr. Arnold Spicer, Maj.-General F. Smith, Messrs. Sidney Villar, John Ward; Mr. G. Thatcher (Solicitor), and Mr. Fred Bullock, (Secretary).

Mr. MULVEY : I understand that the President is unavoidably absent, and in his absence I move that Mr. Salusbury Price, Senior Vice-President, take the chair.

Sir JOHN M'FADYEAN : I second that.

The resolution was put and carried.

The chair was then taken by Mr. T. Salusbury Price.

The CHAIRMAN : Gentlemen, I can assure you that being thrust into this position I feel a heavy responsibility has been put upon me, and if I had had the slightest idea I should have been placed in this position I should have been late this morning! Still, as I am here I will do the best I can. The first business is for the Secretary to read the notice convening the meeting.

The SECRETARY read the notice.

APOLOGIES FOR ABSENCE.

The SECRETARY : I have to report that the President writes regretting his inability to attend the meeting to-day, and presenting his apologies to the meeting. Letters of apology have also been received from Mr. A. W. Mason, Mr. J. Clarkson, Maj.-General Thomson, and Prof. A. E. Mettam, members of Council.

MINUTES.

The SECRETARY read the minutes of the last annual meeting, which were confirmed.

ELECTIONS TO COUNCIL.

The SECRETARY read the following Scrutineer's report: "Election of eight members of Council, June, 1914. We certify that the votes recorded in the voting papers for the several candidates nominated for election to Council were as follows :—

Shipley	998	Mason	897
Sumner	972	Howard	826
Abson	925	Banham	764
Brittlebank	914	Coleman	734
Toope 640.			

There were two spoilt papers and 46 papers were received too late." The report was duly signed by the scrutineers.

The CHAIRMAN : I have much pleasure in declaring the following gentlemen elected members of the Council : Messrs. Shipley, Sumner, Abson, Brittlebank, Mason, Howard, Banham, and Coleman.

We now have to pass a vote of thanks to the scrutineers. This scrutineering business is arduous work. The scrutineers come here every year, and it takes three or four hours hard work to count all the votes and I think they deserve our praise.

Mr. JAMES ROWE : I beg to propose a vote of thanks to those gentlemen.

Mr. REEKIE : I second that.

The resolution was carried unanimously.

The CHAIRMAN : We now come to the annual report and financial statement. The latter part is rather black, but still we must live in hopes. Will somebody propose that the annual report and financial statement be received?

Mr. H. A. MACCORMACK : I propose that the annual report and financial statement be received.

Mr. JAMES ROWE : I second that.

The resolution was carried unanimously.

Mr. GOOCH : I now move the adoption of the annual report and financial statement. There is one question I should like to ask with regard to the new Supplemental Charter referred to on page 3 of the report. I think the first Clause of the new Supplemental Charter leaves the date of the annual meeting in a rather indefinite way; it says it "shall take place on any of the first seven days in the month of June." I think that might have been worded a little more definitely. I suppose that has been done in order that we may get away from the idea that a good many veterinary surgeons say they have to go to the Derby instead of coming to the annual meeting. If the annual meeting was fixed on a Thursday it would do away with all that. The provincial practitioners are very busy at this time of the year, and I think it leaves it in a very indefinite way to say that the annual meeting may be held any day in the week. There is nothing to hinder the President calling it upon a Sunday.

The CHAIRMAN : We should give you notice, specifying the day and the time.

Mr. GOOCH : But it might be a short notice.

The CHAIRMAN : No, we have to give the legal notice—a fortnight's notice. You have plenty of time.

Mr. GOOCH : I should like to suggest to the Council that we fix a certain day of the week, say Thursday, for the holding of the annual general meeting. I think that is convenient to most members.

The CHAIRMAN : All these suggestions will be taken notice of in due course.

Mr. W. W. REEKIE : I second the motion for the adoption of the report.

The CHAIRMAN : Gentlemen, it is now open for discussion. I think the best way will be to go through it page by page. (The Chairman then called for discussion on the report page by page, but none was forthcoming.) Well, gentlemen, I can only say it only shows what confidence you have in the members of the Council.

The resolution for the adoption of the report and the financial statement was then put and carried unanimously.

The CHAIRMAN : Gentlemen, that concludes the business of the meeting.

Mr. MULVEY : Before you vacate the Chair, sir, I was going to ask the members who are present to pass a very hearty vote of thanks to you for the way in which you have stepped into the breach caused by the absence of our President. I therefore move that a hearty vote of thanks be given to Mr. Price for the way in which he has carried out the duties of the Chair.

Mr. BANHAM : I beg to second that.

The resolution was then put and carried by acclamation.

The CHAIRMAN : Gentlemen, I return you many thanks. I am very sorry that I have shown a few shortcomings while occupying this position, but if I am thrust into it at any future time I hope the little experience I have had to-day will be the means of enabling

me to acquit myself better than I have done this morning. I return you many thanks, and I hope to have the pleasure of meeting you all this time next year looking as well and happy as we are at the present time, as I trust by this time next year we shall be able to record some improvement in our Finance Department. The Treasurer is not very happy, although he looks very happy. (Laughter.) Still, these small things do not interfere with him, and we feel that if we get short of money we have only to go to the Treasurer and he will find it. I return you many thanks for your presence here to-day.

SOUTH EASTERN VETERINARY ASSOCIATION.

[NATIONAL V.M.A.—SOUTHERN BRANCH].

INSPECTORS' SECTION.

Meeting held at Tonbridge, May 13th.

Mr. CROWHURST: I wish to bring forward the question of charges for final visit and examination in cases of mange. It is in reference to the examination of a horse supposed to be recovered from parasitic mange. I put in my charge of 10/6 considering that it was an examination of importance which had to be very carefully made, and which had a certain amount of responsibility attached to it, for if we made a mistake we might spread the disease throughout the district, and be called to order in consequence. I was written to very quickly afterwards and asked why I had charged 10/6 instead of 5/-. I stated that I understood others had charged 10/6, and that it had been passed, and therefore could not see why they took exception to my charging that sum. It is a small matter, but if we unite, as we have done on former occasions, we shall benefit to some small extent. I propose: "That the Association adopt the fee of 10/6 instead of 5/-, and that the Secretary be asked to write to Mr. Prosser, the Clerk to the Kent County Council laying before them the facts."

Mr. HOBGEN seconded.

Mr. COLEMAN: I should rather like to mention one thing which appears to me to be of importance to the profession generally. You seem to be in a happy position in Kent. In Wiltshire we get no second fee at all. I think there ought to be some measures taken to see that the fees for the whole country are more uniform. In one county the one mode of administration, and in another county another.

Mr. MORRIS: I think we are better off than you in Kent. For a case of parasitic mange I get 10/6.

Mr. TOOPE: This shows the advisability of adopting our system in other societies I mentioned the other day. We ought to get paid by our county, and not by our clients.

The resolution was carried.

Mr. MORRIS: The East Sussex inspectors had a meeting at Brighton, and the County Council made inquiries and raised our prices to practically what we wanted.

Mr. GREGORY: So far as the general fees go, I think owing to the exertions of several gentlemen connected with this Association, we ought to be satisfied. There is one question I should like to mention with regard to tuberculosis. It is the great difficulty in getting our clients to agree with us as to the valuation of milch cows. If the owner is not partly indemnified against loss, he will not report suspicious cases. You know perfectly well that owners having reported one case, take pretty good care they don't report another, for the compensation is so low. In view of the Pure Milk Bill mentioned in the House of Commons last night, it is the intention of the Board of Agriculture to deal with the

question by giving far better compensation, thus giving the owners some inducement to report if they wish to exterminate these cases.

Mr. CROWHURST: I had two cases, they complained that I had over-valued. One of the animals had just calved bringing up a calf and giving one and a half gallons of milk daily. The other had calved 7½ months, and in my valuation I took this fact into consideration. Considering the cow had gone seven months in calf again there was value attached to that compared with one that was empty. They reject that, however, and say it is not to be taken into consideration, only the butcher's value of the carcase, except in those cases where the animal is in such condition that we can take upon ourselves the responsibility of recommending it to be sold for human food. If you feel as I do in these cases you will take strong exception to recommending such animals for slaughter and sale for human food. My conscience will not allow me to recommend a portion of a carcase, with the diseased parts cut away, to be sold for human food. I think such would be pretty generally the opinion, as far as I know, of my brother professionals. I think this should be brought prominently before the County Council. Although we do this valuation, we have a conscience that requires satisfying. Supposing a farmer cut away the diseased portion and sent the rest to market, what position would he be in? Why should we occupy a different position to the owner? If the meat is sent to the butcher's and sold, the purchaser is only protected by the process of cooking the flesh.

Mr. DUNKIN: If the bronchial glands only were affected would you consider it fit for human food?

Mr. CROWHURST: If these glands were much affected I should not recommend it for human food. I cannot imagine anyone wanting to palm off a diseased carcase for human beings, and for it the public have to pay the same price as they would for good meat. If it was sent to the butchers he would get it at very much less than the normal value, but he would not dare to tell his customers that they could have it cheaper, because he did not pay so much for it owing to it being diseased; if he did so that customer would not go to his shop again, and it would do him serious injury. Therefore he has to charge the full price; and that applies to milk in the same way.

Mr. DUNKIN: You rather missed my point. Supposing any other gland were affected. There is the pharyngeal gland. Would you then pass the hind-quarters?

Mr. CROWHURST: I made it quite clear. I should refuse when lesions were distinct.

Mr. MORRIS: The Royal Commission I believe said the whole of the carcase in this condition should be passed.

Mr. COLEMAN: I should certainly not allow any part of the carcase to be used. If the peritoneum or pleura is affected the whole of the carcase should be destroyed. In all cases diseased parts have to be destroyed. I don't know that there is any note made of removing affected glands, although it is done in some parts. If I find the glands affected, the whole carcase is unfit for human food.

Referring to Mr. Crowhurst's remarks respecting valuation, I saw danger looming in the distance in the early stages of the Order, and on the 6th May last year in my district the question was mooted. I approached the Deputy Chief Constable, and through him pointed out that there would be great friction among the farmers if the veterinary surgeons had the valuation. We got them to agree to valuers being nominated for each division, and they had no instructions whatever as to the form of valuation, whether to inspect the animals for disease or health valuation. It was rather ambiguous. Sometimes an animal was valued at £22 if healthy,

and if diseased 30s. Now the valuers have to value them at health value, and if the value is £15 the diseased value will be £13. Supposing we have a cow valued at £13, and she is advanced tuberculous, he only gets £3 5s. of that £13, and if you value it at £6 as diseased he never gets more than the minimum, but the least value a valuer need ever put on any cow is £6. If emaciation is present, and there is one spot tubercular, it is looked upon as an advanced stage of tuberculosis, and the minimum price a valuer would put upon it would be £6. Many are sent to London and sold as meat.

The PRESIDENT: Our local authority at Margate will not permit the use of the meat of any animal that has been condemned for tuberculosis, and it is the burial of these carcasses which has led to correspondence between the Town Clerk and the Board of Agriculture. The Board said in their last letter that if they did not carry out the Order in its entirety, they would seriously consider about withdrawing their quota towards compensation. That would place the whole of the responsibility of compensation on the local authority, but they are most adamant. They say they are quite justified in their opinion, and will not permit the carcase of any animal I have condemned for tuberculosis to be used for human food, and they are all burnt in the usual manner.

Mr. CAUDWELL: With reference to the new Milk Bill; it will bring a largely increased number of tuberculous animals under the notice of the County Councils' inspectors. Compensation has been the crux of the whole thing. Farmers after being once bitten are twice shy. They hide their cases away and they fall into the hands of the cheap butchers, and we get fewer cases now than we did when the Order was first issued. The Board of Agriculture have promised increased compensation, and I hope it will be twice as much as the farmer is getting at the present moment, otherwise we shall not get any cases reported.

Mr. CROWHURST: What I want to impress upon you is that by accepting an office as valuer of tuberculous animals you have a very responsible post, and one by which, if we deal fairly with the public, we shall gain their esteem. If we recommend animals that are diseased to be sold for human food, we shall earn a reputation which will not do our profession much credit. A father of a family in a butcher's shop could not discriminate between one or the other. I should say the veterinary surgeon who passed such an animal was not acting *bona fide*, nor was he a credit to his profession.

Mr. WARREN: I endorse what Mr. Crowhurst says. I cannot think it can be right for any professional man to pass meat reacting to the tuberculin test. If you say it is localised, are you sure? I take it to be an infective disease. The ordinary inspector says "It looks a good carcase," but is everything discovered by that? It would be more to our credit if we said it showed signs of tuberculosis, and that in the interests of the public it should be destroyed.

I have had some rather peculiar experiences with regard to tuberculin tests. A little while ago I had 48 animals to test, and I did 24 one day and 24 the next. Of one batch no less than 18 reacted, and I believed it was unreliable tuberculin, and after three months the same 24 were tested again and only eight were wrong.

T. C. TOOPE, Hon. Sec.

VICTORIA VETERINARY BENEVOLENT FUND

ESTABLISHED 1897.

President:

R. C. TRIGGER, J.P.

Vice-Presidents:

W. FREEMAN BARRETT. E. A. WEST
P. J. SIMPSON. W. BURT, JNR.

Trustees:

Sir STEWART STOCKMAN, 4, Whitehall Place, S.W.
W. SHIPLEY, 28, Southtown, Gt. Yarmouth.
F. W. GARNETT, Windermere.

Bankers:

Messrs. BARCLAY & Co., LTD., (Gt. Yarmouth Branch).

Hon. Secretary and Treasurer.

W. SHIPLEY, 28, Southtown, Gt. Yarmouth.

Council:

RETIRE 1914.

Spicer, Arnold, Oxted
Sumner, H., Liverpool
Stockman, Sir S., London
Trigger, R. C., Newcastle, Staffs.
Villar, Sidney, Amersham
Wharam, S., Leeds
Whitlamsmith, H. H., London
Woodruff, Professor, Melbourne

RETIRE 1915.

Abson, J., Sheffield
Almond, N., Kingston-on-Thames
Banham, G., 32 Rock Rd., Cambridge
Barrett, W. F., Fountain Court, Temple
Burt, W., Jnr., Brighton, Sussex
Dunstan, J., Liskeard, Cornwall
Dewar, Professor, Edinburgh
Dollar, Jno. A. W., New Bond St., W.

RETIRE 1916.

Garnett, F. W., J.P., Windermere
Gooch, F. L., Stamford Baron
Heatley, T. G., Woodbridge
Hobday, F. T. G., Kensington
MacCormack, H. A., Tufnell Park, N.
McFadyean, Sir John, London, N.W.
Mulvey, W. J., London, S.W.
Mettam, Professor, Dublin

RETIRE 1917.

Mulvey, W. S., Chelmsford
Penberthy, Professor, Newnham, Glos.
Shave, Professor, London
Sheather, C., London
Shipley, W., Great Yarmouth
Simpson, P. J., Maidenhead
Sloccock, S. H., Hounslow
West, E. A., Kensington

Irish Committee.

P. J. Howard, J. F. Healy
P. D. Reavy Prof. J. J. O'Connor.

REPORT AND ACCOUNTS

For the twelve months ended 31st December, 1913, to be submitted to the sixteenth annual meeting of the members to be held at 10, Red Lion Square, London, by permission of the Council of the Royal College of Veterinary Surgeons, on Wednesday, the 3rd day of June, immediately after the annual meeting of the Royal College of Veterinary Surgeons, which takes place at 12 o'clock noon.

The Council begs to present its report for the year ending the 31st December, 1913.

The membership of the Society at 31st December, 1913, numbered 363, an increase of over 50 for the period.

The relief granted amounts to £350, which is a considerable increase over the previous year. During the past year weekly grants have been made in 18 cases. Three of the recipients were over 80 years of age (one of whom has since deceased), two widows are aged 60, and there are eight whose ages range from 51 to 58. One only, a younger woman, has "temporary employment," and she has seven children. Against all the other names is written "no income."

Increases have been made in grants in some cases where possible. Temporary grants have been made in five cases.

The Council desire to place on record the help given by Lady M'Fadyean in raising subscriptions to insure the retention of a son of a veterinary surgeon in a charitable school for a further period of twelve months.

The kind donation of £73 4s. 5d. from Mr. P. J. Simpson, of Maidenhead, the proceeds of an entertainment arranged by him, and further donations which have been received, have in accordance with Rule 4, been invested by the Trustees in Western Australia 3½ Stock 1920-35.

Christmas grants have been made to those widows who have children; in sums varying from £2 10s. to a widow with several children, to £1 in the case of small families, received principally from donations especially given in response to the President's appeal.

The Council present the balance sheet for the year, and desire to thank the Honorary Auditors for the work they have done, which must entail a great amount of time and labour.

ACCOUNT FOR THE YEAR ENDED DEC. 31ST, 1913.

<i>Expenditure.</i>		£	s.	d.
Relief granted	...	348	6	0
London Orphan Asylum Grant	...	2	2	0
Printing, Stationery, Advertising and incidental expenses	...	21	16	3
		£372	4	3
<i>Income.</i>		£	s.	d.
Subscriptions	...	255	6	0
Interest and Dividends	...	96	7	6
Income Tax Returned	...	5	9	2
Excess of Expenditure over Income	...	15	1	7
		£372	4	3
		£	s.	d.
Capital Account, Dec. 31, 1912	...	3459	7	2
Add :—Donations	...	121	19	3
		3581	6	5
<i>Income and Expenditure</i>		£	s.	d.
Account, Dec. 31, 1912	...	34	3	2
Deduct :—Excess of Expenditure to 31st., 1913	...	15	1	7
		19	1	7
Subscriptions paid in advance	...	8	8	0
		£3608	16	0
<i>Investments at Cost :—</i>		£	s.	d.
£3433 12s. 3d. 2½% Consolidation Stock	...	2945	14	7
£550 3% Norwich Corporation Redeemable Stock	...	532	3	6
£137 1s. 7d. 3½% Western Australia Stock, 1920-1935	...	120	0	0
		3597	18	1
Cash at Bankers, Dec. 31, 1913	...	10	17	11
		£3608	16	0

We have examined the above accounts with the books and vouchers and certify the same to be correct. We have ascertained that the investments are registered in the names of the Trustees. The bankers have certified the correctness of the balance on current account.

JOSEPH WOODGER,
ALBERT E. LARK, F.C.A. } Hon. Auditors.

March 28, 1914.

WILLIAM SHIPLEY, Hon. Sec. & Treas.
28 Southtown, Gt. Yarmouth.

The Council note with regret the death of many old subscribers, and desire respectfully to recommend the favourable consideration of the Fund to the members of the profession when making charitable bequests.

The members are earnestly appealed to to use every means in their power to obtain new members, as it is only by this method that the objects of the Society can be attained. (A list of the present subscribers is annexed to the report).

The following members of the Council retire by rotation :—Messrs. Arnold Spicer, H. Sumner, Sir S. Stockman, R. C. Trigger, S. Villar, and S. Wharam; and they have been nominated for re-election. Professor Wooldridge has also been nominated, leaving one vacancy on the Council to be filled.

The auditors are Messrs. Joseph Woodger, M.R.C.V.S., and Albert E. Lark, F.C.A., who are recommended for re-election.

The Council fully recognise that the members of the profession cannot be aware of the distress that occurs amongst old members and also amongst the widows and children of veterinary surgeons who have died before they have made provision for their dependents. It must be apparent that no grant less than ten shillings per week can meet the pressing needs of a widow, even without little children. It is to be hoped that in future no grant should be less than that sum. This would entail at present an expenditure on grants alone of over £400 per annum, a sum quite impossible with our present income.

A subscription of 10/6 a year entitles to membership. The Council feels that, if every member of the Fund would endeavour to influence at least one other member of the profession, and point out the good work that is being done, our list should be doubled. The Secretary will be pleased to give any further information.

R. C. TRIGGER, President.

WM. SHIPLEY, Hon. Sec. & Treas.

28 Southtown, Great Yarmouth.
May 19th, 1914.

REPORT OF THE VETERINARY SURGEON TO THE CORPORATION OF THE CITY OF GLASGOW FOR 1913

[ABSTRACT.]

The number of home and foreign animals slaughtered and inspected was 427,449, of which 76,040 were cattle, 15,485 calves, 35,793 swine, 300,097 sheep, and 34 goats.

A comparison of the returns for 1913 with those for 1912 shows a decrease in the number of home animals slaughtered of 23,518 cattle, 23,084 sheep, and 14,697 swine; and an increase of 6,595 calves, and 14 goats. The number of foreign animals slaughtered shows a decrease of 663 cattle, and an increase of 501 sheep.

The most frequent disease affecting home animals is Tuberculosis. Following the precedent of former years, I submit statistics regarding its prevalence :—

*Percentage affected in Home and Foreign Animals Slaughtered at all the Abattoirs,
and Results of Adjudication.*

	Slaughtered.	Affected.	Destroyed, totally.	Partially.	Passed.
		Per cent.	Per cent.	Per cent.	Per cent.
Home Cattle	76,040	8,647 11·37	969 11·20	852 9·85	6,826 78·94
„ Calves	15,485	42 27	19 45·23	3 7·14	20 47·61
„ Swine	35,793	1,986 5·54	64 3·22	14 70	1,908 96·07

*Comparison between Tuberculosis and Non-Tubercular Diseases in Carcases of
Home Animals dressed in Glasgow during the Year 1913.*

		Oxen.	Bulls.	Cows.	Heifers.	Calves.	Total.	Swine.	Sheep.	Goats.	Total.
Tubercular	Total	57	20	873	19	19	988	64	...	...	1052
	Partial	194	72	544	42	3	855	14	...	...	869
Non-Tubercular	Total	70	10	745	17	215	1057	97	296	...	1450
	Partial	72	12	126	8	5	223	74	70	1	368

THE SLAUGHTER OF CALVES.

During the year under review 15,485 calves were brought to the city abattoirs. This number is 6,595 in excess of that for 1912.

In years past it was the custom for farmers to slaughter their calves and to consign the carcasses to a trader in the city. Now many traders located in the city travel the country, purchase from the farmer and bring the live calf for slaughter to one of the abattoirs. The veal from such calves is in better condition, so that this change of policy is to the benefit of the consumer as well as the trader. A very considerable number of carcasses is still being consigned from outlying districts, and many of these carcasses have to be seized on account of bad handling.

The age of the majority of calves placed on the Glasgow market as veal varies from one to seven days. Veal prepared from such immature calves has been used as an article of human food for ages, but it cannot be considered as of good dietetic value. Apart altogether from this question the ruthless slaughter of calves ought to be restricted. It is perfectly true that many calves are not suitable to be kept for stores, but others are, and in the course of time would augment our ever-diminishing supply of home-fed beef.

MILK SUPERVISION.

It must be candidly admitted that the public, who are certainly the chief sufferers from an impure milk supply, are also the chief offenders, because, owing to their crass indifference and craze for the "big pennyworth," they encourage falsification and slovenly habits. It cannot be too strongly emphasised that pure milk is an invaluable food, whilst impure milk is a virulent poison. The public must recognise that it is necessary for them to pay more for their milk—in other words, to produce a high-grade quality of milk entails increased cost of production.

It is common knowledge that much of the milk sold in this city at the present time is unfit for human consumption. To put it bluntly, it is *not* milk, but a mixture of milk and filth. I grant that this is a strong statement to incorporate in an official report, but the circumstances demand it. Day by day the evidence is accumulating to show that the danger to man from an impure milk supply has not been over-estimated but underrated, and if the present slaughter of the innocents is to be stayed, strong measures must be taken.

The efforts made by the authorities of Geneva—a city in the State of New York, with a population of, in

round number, 13,000—is worthy of our serious consideration. In 1907 the milk supply—the produce of 550 cows—was in the hands of 40 dairymen. The conditions under which the milk was produced, handled, and sold were perhaps no worse than those which at present obtain in every town and city in the United Kingdom. Through the influence of the then Mayor, A. P. Rose, Esq., an inspector was appointed, and a systematic inspection was inaugurated of all dairies supplying milk to the city. The conditions found were recorded on the score card devised by Prof. R. A. Pearson, of Cornell University, which provides for a maximum score of 500 allotted equally between (1) health of the herd and its protection, (2) cleanliness of the cows and their surroundings, (3) construction and care of utensils, (4) health of employees and manner of milking, and (5) handling the milk.

If the total of all scores is :	and each division is :	the sanitary conditions are :
480 or above,	90 or above	Excellent.
450 „	80 „	Good.
400 „	60 „	Medium.
Below this standard		Poor.

The Board of Health convened a meeting of the dairymen, and explained to them the object of inspection. The Board intimated that they did not intend to employ coercive measures, but, after the expiry of a reasonable time, they would publish the scores of every dairy of supply, and thus enable the public to use discrimination in the purchase of milk.

Each producer was furnished with a duplicate of the score card in order that he might be made acquainted with the defects found; special attention being directed to those which could be remedied at little expense. At the same time he was requested to lodge objection to any error in scoring.

The first inspection was made during the months of September and October, 1907, with the result that 5 per cent. of the dairies were classed as "good," 57·5 per cent. as "medium," and 37·5 per cent. as "poor."

At the end of 1910, 12·8 per cent. were classed as "excellent," 74·4 per cent. as "good," and 12·8 per cent. as "medium."

The scores of the first quarter of 1911 showed that 12·8 per cent. were "excellent," and 87·2 per cent. as "good."

The Board in 1908 decided to make public the scores of the dairies of supply. Against this decision a few

dairymen—who had not taken the earlier statements of the Board seriously, and had made no effort to improve the condition of their dairies—lodged a protest. A meeting was arranged, and the points of difference were freely discussed. The opposition of the few who were not prepared for publication was outweighed by the approval of the many who stated that they had striven hard to merit a good score, and now publicity was due them and they demanded it. Accordingly, the scores were published in the press; under each distributing dairy being grouped its contributing dairy farms with their respective classification. The attention of the public was at the same time called to the fact that the milk offered by any retailer was no more desirable than that of his poorest producer, since if he mixed the milk from all of the dairies it would be all reduced to the level, and if he did not mix it someone would get only the poorest milk.

Prior to 1st April, 1909, the milk was distributed through the agency of a company and nine private traders, but on that date the latter combined and formed what will hereafter be designated the "New Company."

The management of the old company undertook to pay the producer on a scale for graded milk. The official score of the dairy for each quarter was to be taken as the basis for making settlements. The new dairy company did not have such a clause in its contracts.

It is of great interest to note the effect of this policy. Of the nine dairies supplying milk to the old company, three were classed as "excellent," and six as "good," with an average score of 474 marks. Of the twenty-five dairies under contract with the new company none were "excellent," fifteen were "good," and ten were "medium," with an average score of 453 marks. The former not only maintained the improvement, but gained a higher average score. On the other hand, the latter showed a decided retrograde movement. In one case a score of 476 marks in March fell to 454 marks in June.

The trade of the new company decreased, whilst that of the old company increased. As the milk was sold at the same rate by both companies, it is reasonable to deduce that the more enlightened portion of the community patronised the vendors who could produce the more satisfactory evidence that the milk sold by them was produced and handled in a proper manner.

It is true that the difficulties to be overcome are many in adopting such a method to control the milk supply of a great and populous centre such as is Glasgow, but if a few of the more enterprising dairymen were to agree it would certainly exert a powerful stimulus on the whole trade.

The amount of capital at first invested was only about £550, but, owing to the enormous demand for the supply of milk, this sum had to be augmented, and it now stands at £8,250. The actual assets of the Company, however, are returned at £27,600.

At present there are forty farms, representing 5,000 cows, supplying milk to the Company. Briefly put, the lines upon which the Company works is tersely expressed in their motto, "Clean milk from healthy cows," and in endeavouring to realise this high ideal they insist on all milk sold being in conformity with the following requirements:—

- (1) The cows must be periodically examined by veterinary surgeons, and only those found healthy retained in the milking herd;
- (2) The conditions of the contract, which have for their object the minimising of the risk of extraneous contamination, must be strictly observed; and
- (3) The milk must at all times be kept at a low temperature, so that the growth of fermentative and putrefactive organisms which have gained access is inhibited.

The conditions of contract regulate not only the sanitary conditions under which the cows are housed, the grooming of the cows, the cleanly condition of the milkers, the storage of dairy utensils, and the milk itself, but also stipulate that the food of the cattle be in a thoroughly wholesome condition of good quality, and free from substances capable of imparting an unusual flavour to the milk.

The Company sells its produce at the undernoted prices per gallon:—Whipped cream about 5s.; Cream 4s. and 3s.; Whole milk 10d.; Skimmed milk 5d.; Milk for children 1s.; Milk for babies (modified and pasteurised), about 1s. 6d. to 2s. 3d. (according to proportions of water and sugar); Butter milk, about 6d.; Cruets about 4½d. to 6d. each.

Prior to the establishment of this Company the milk supply of Copenhagen was unsatisfactory. For example, of 111 samples of cream taken during the months of August and September, 1876, only 2 were found to be of good quality, while 24 had been adulterated with starch in the proportion of 6 to 11 per cent. To-day it is universally regarded that the milk supply of Copenhagen is second to none in the whole civilised world.

[Mr. Trotter here cites the finding of the Royal Commission (second interim report) on tuberculous milk, and the results recently published by Dr. Mitchell].

INSPECTION OF MILCH COWS.

City. From 1st January to 23rd October, the cowsheds in the city were visited by a veterinary inspector from this Department on 690 occasions, and the milch cows housed therein were examined, with the result that 154 were found affected. These were dealt with as follows:—

14 Systemic,	Milk destroyed.
8 Mastitis, Acute,	"
116 " Chronic,	"
16 Prominent Lymph. Glands,	"

Country. Farms situated outside the city were visited on 488 occasions, and 12,480 milch cows were examined. 221 were found affected, and dealt with as follows:—

18 Systemic,	Milk destroyed.
183 Mastitis, Chronic,	"
20 Prominent Lymph. Glands,	"

FEVER HOSPITALS' MILK SUPPLY.

The farms supplying the fever hospitals with milk were visited on 79 occasions. By the terms of contract the farmers undertake "that no milch cow shall be added to, or retained in, the herd if . . . it reacts to the tuberculin test."

Tested.	Negative.	Positive.	Doubtful.	Rejected.
161	84	60	17	77

In addition to being tested with tuberculin, the cows in these herds are clinically inspected at frequent intervals. On these occasions 37 samples of milk were drawn from cows showing abnormal changes in the udder, and one swab was taken from a cow with a mucopurulent discharge from the lungs. These samples and swab were submitted to the bacteriologist, who, after inoculation experiments, reported that they were not infected by tubercle bacilli. The farmers, too, are under contract to immediately notify all cases of illness occurring among their cows, and to isolate all those affected.

LABORATORY.

For meat and milk inspection a laboratory is indispensable. Since this Department was organised it has been the custom to examine the blood or tissues of every animal brought to the abattoir dead or in a dying condition, as well as every suspicious carcase consigned

outwith the city boundaries to traders. Of such, 588 were microscopically examined during the period under review. For some time past I have been of the opinion that better methods could be adopted, and with this object in view a series of experiments have been carried out. So far the results obtained have been extremely gratifying, and warrant these researches being continued. I trust that I shall be able to report more fully on this method in another year.

On several occasions flies caught in the abattoir were made to walk over gelatine plates. The result showed that many were grossly contaminated with organisms. There is no question but that these pests may, and do, contaminate food, and an organised effort ought to be made to eradicate them.

VETERINARY ATTENDANCE ON HORSES.

The examination of horses belonging to Health and Sanitary Departments as to soundness or illness necessitated 21 visits during the year.

A. M. TROTTER.

A Disputed Account.

Before his honour Sir W. Lucius Selfe, in the West London County Court, William Sewell, veterinary surgeon, of South Kensington, sued Miss Victoria Monks, music hall artist, for £24 fees for attendance on a pet dog.

In his evidence, plaintiff said, in answer to a telephone message, he attended at the defendant's flat in Acacia Road, Maida Vale, on Dec. 1 last, and was asked to treat a pet terrier by the defendant. He found it to be suffering from pneumonia, which subsequently developed into distemper. He treated the animal, attending daily till the 24th, when it had recovered. He sent in his bill in January, but it was returned through the dead letter office.

Mr. W. H. Lever: You could have had no difficulty in finding the defendant, she is a well-known music-hall artist?

Plaintiff: I never heard her name before this.

You charge a guinea a visit. Can you show me any other client to whom you made this charge?

Plaintiff quoted Mr. Albert Chevalier.

Mr. Lever asserted that the charges were exorbitant. The plaintiff was then required to produce his ledger, and Mr. Lever went through the pages. Counsel remarked that 3s. 6d. seemed to be the usual charge to other clients, but in regard to the account against the defendant the plaintiff had charged for December 4, one guinea for a visit, also £1 11s. 6d. for a second visit, taxicab 5s., medicine 2s. 6d.; something like £4 for a single day.

Plaintiff: I was called in the forenoon and again at 7.30 p.m., for which 10s. 6d. extra is charged. He added that he saw the defendant in the dining-room, five or six times, and she told him the dog was hers.

Miss Monks said the dog, a small Yorkshire terrier, was originally hers. It was seven years old, and she gave it to Mrs. Dunville many months ago. She denied that she had telephoned for the plaintiff to attend the dog, asserting that she had never had any conversation with him about the dog at any time; the attendance on the dog was entirely Mrs. Dunville's affair. Miss Monks added that though she was not liable, she would have paid for her friend, but for the fact that the plaintiff's charges were so extravagant.

Mr. Lever: Why are you resisting this claim?

Defendant: It is so exorbitant—a guinea a visit is beyond all reason! I am quite willing to pay something for the dog's sake, but not these charges.

A veterinary surgeon stated that the plaintiff's

charges were very high. Five shillings or 7s. 6d. a visit would be fair, and most "vets" would charge 3s. 6d.

His Honour said he did not think the defendant was liable, but she had intimated she would consent to judgment for a reasonable sum. This was a monstrous account; he had never seen anything like it in his life. He had paid doctor's bills, veterinary's bills, and other bills but this one beat the record. The amount for a visit would be high at 10s. 6d. If the defendant was willing to pay an amount for this dog he would fix it at £10 6s. 5d.

Mr. Lever: I trust your honour will not enter this as a judgment against Miss Monks. She will be extremely pleased to pay whatever amount your honour thinks fair. She is quite ready to pay, but not under the threat of legal proceedings.

His Honour: There will be judgment without costs for the defendant, on her undertaking to pay that amount.

Mr. Lever: That will be satisfactory.

DISEASES OF ANIMALS ACTS, 1894 TO 1911.

Return showing the number of Premises on which the existence of TUBERCULOSIS has been notified to the Board of Agriculture and Fisheries during the month of May, 1914.

ENGLAND (Counties) *		ENGLAND (continued) *	
Bedford	2 2	„ North R.	9 10
Berks	1 1	„ West R.	37 37
Cambridge	1 1	WALES.	
Chester	34 39	Anglesey	8 8
Cornwall	13 15	Brecon	1 1
Cumberland	2 3	Carmarthen	1 1
Derby	10 11	Carnarvon	3 3
Devon	13 13	Denbigh	9 9
Dorset	2 2	Flint	7 8
Durham	7 8	Merioneth	2 2
Essex	2 2	Pembroke	1 1
Gloucester	13 14	SCOTLAND.	
Hants	1 2	Aberdeen	18 18
Hertford	4 5	Argyll	3 3
Kent	8 8	Ayr	14 15
Lancaster	4 56	Banff	4 4
Leicester	1 1	Berwick	1 1
Lincoln, Holland	6 7	Bute	3 3
„ Kesteven	9 9	Dumfries	3 3
„ Lindsey	8 8	Fife	21 24
London	4 4	Forfar	13 13
Middlesex	1 1	Haddington	4 4
Norfolk	4 4	Inverness	1 1
Northampton	8 8	Kincardine	4 6
Northumberland	1 1	Kirkcudbright	11 12
Notts	11 11	Lanark	15 15
Salop	8 8	Linlithgow	2 2
Somerset	3 3	Midlothian	
Stafford	18 18	(ex City of Edin.):	5 8
Suffolk	3 3	Orkney	1 1
Surrey	9 9	Perth	9 9
Sussex, East	4 4	Renfrew	9 9
„ West	1 1	Ross and Cromarty	5 5
Warwick	6 7	Roxburgh	3 3
Westmoreland	4 4	Wigtown	4 4
Wilts	20 24		
Worcester	5 5		
York, East R.	10 10		

TOTALS 542 575

* Number of bovine animals suffering from tuberculosis of the udder, tuberculosis with emaciation, or giving tuberculous milk, in respect of which notice of intention to slaughter has been received.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.		Out-breaks	Slaughtered.*
	(a)		(a)		(b)		(b)			(a)	
U.K. BRITAIN.											
Week ended May 30	8	8			1	1	22	31		127	1332
Corresponding week in											
1913 ...	7	7			3	3	53	106	1	60	691
1912 ...	5	5			3	4	31	64	1	80	868
1911 ...	11	12			3	7			3	59	759
Total for 22 weeks, 1914 ...	392	418	11	74	40	86	1268	2280	144	1770	17926
Corresponding period in											
1913 ...	282	304			74	219	1502	3082	129	991	14493
1912 ...	454	508			73	153	1959	4360	161	1487	18731
1911 ...	422	515	1	18	91	248			300	1075	11556

(a) Confirmed. (b) Reported by Local Authorities.
Board of Agriculture and Fisheries, June 2, 1914

† Counties affected, animals attacked: London 1.

Neglect of Pit Ponies.

Evidence of ill-treatment of pit ponies was heard at Nottingham on 27th ult. Fines totalling £64 were inflicted on the Digby Colliery Company, Mr. T. Dennis Bayley, J.P., managing director, and Mr. Raymond Nadin, manager, for not exercising supervision over horsekeepers, allowing an unqualified man to act as deputy, not providing sufficient room for ponies to work in without their rubbing on the roofs, and not providing refuge holes on haulage roads. A mines inspector stated that ponies 4ft. 6in. high were working in places where the roof was only 4ft. 2in. high. A large number were working with big, raw sores, many of at least months' standing.—*Evening Express* (Neath).

Personal.

Mr. WILLIAM WALTERS, M.R.C.V.S., Abersychan, Mon., will act as judge of Colliery Horses at the Welsh National Show to be held at Newport, Mon., on July 21—23.

Mr. A. POTTIE, jun., M.R.C.V.S., Paisley, was one of the judges of the Light Horse Class at the annual show of the Erskine and Inchinnan Agricultural Society, held on Tuesday, June 2nd, at Kingston, Bishopston.

Mr. W. LOGAN, M.R.C.V.S., Inverness, will act as judge of the Roadsters (driving and leaping) at the annual show of the Royal Northern Agricultural Society to be held at Aberdeen on Thursday, July 23rd.

Mr. W. F. HOUSTON, M.R.C.V.S., Paisley, acted as judge of the Light-legged Horse class at the sixty-third annual show of the Cambuslang, Blantyre, and Rutherglen Agricultural Society, which was held at Westburn, Cambuslang, on Saturday, May 23rd.

Mr. A. POTTIE, jun., M.R.C.V.S., Paisley, was one of the judges of the Light Horse class at the Largs, Cumbræ, and Wemyss Bay Agricultural Society's annual show at Glenacre, Largs, on Saturday, May 23rd.

At a meeting of the Executive Committee of the Aberdeen County Council on Friday, May 22nd, several appointments of veterinary surgeons were made:—

Mr. GEORGE J. S. MOWER, M.R.C.V.S., was appointed veterinary inspector for the parishes of Auchindoir, Rhynie, and Clatt, in room of the late Mr. Morrison.

Mr. WILLIAM S. LORNE, M.R.C.V.S., was appointed for the parish of Turriff and part of Monquhitter.

Mr. WILLIAM MARSHALL, M.R.C.V.S., following upon his appointment under the Aberdeen Town Council, resigned his position as inspector for the parishes of Newhills and Oldmachar. He recommended for the position,

Mr. ROBERT E. DRENNAN, M.R.C.V.S., who was unanimously appointed.

OBITUARY

HENRY HILLS, M.R.C.V.S., Cambridge.

Graduated, Lond: 1864.

Mr. Hills died on May 22nd, aged 70 years. The funeral took place at St. Andrew's, Old Chesterton, on Monday afternoon. The chief mourners were Mr. E. Hills (brother), Mrs. Reeve (sister), Mr. Reeve, Miss Fisher, Mrs. Pooley, Miss Harvey, Miss Bavey, and Mr. Robinson. There were many floral tributes from relatives and friends.

HUGH FERGUSON, M.R.C.V.S., Warrington.

Edin: April, 1870

Death occurred on May 29th from cerebral degeneration, at the age of 68.

DEAN.—On the 30th May, at 22 Rubislaw Den, North Aberdeen, George Dean, M.A., M.B., C.M., Regius Professor of Pathology in the University of Dublin.

[Prof. Dean was an Examiner for the Diploma of Membership R.C.V.S. in 1900-01].

NATIONAL ASSOCIATION OF VETERINARY INSPECTORS.

Sir,

However wrong Mr. Toope may consider I am in my deductions as to his attitude towards this Association, it is preposterous for him to say that I misquoted him, or rather that I wilfully omitted a portion of his remarks in order to distort his meaning. Here are his exact words as reported in your columns:

The President: "Do you not think that is rather clashing with the National Veterinary Inspectors?"

Mr. Toope "Did not think so at all. The idea seemed pretty general that the National Veterinary Inspectors were practically non est. Nothing appeared to have been done by them."

I find, on reference to the report, that the words underlined were omitted from my quotation, but this was done quite unconsciously on my part and, in any event, I do not see that the omission alters Mr. Toope's meaning in any substantial degree. The words added by Mr. Toope in his letter of May 30th do not appear in the original account of the meeting, so that if he was wrongly reported the fault is not mine.

But the "real object" of my previous letter was to induce Mr. Toope to come out into the open in order that we might learn the reason for his notorious disregard of the existence of this Association in his advocacy of small sectional societies. In this, I think, I can claim to have been successful, for Mr. Toope, as showing his interest in the concern, has now replaced his policy of ignoring the Association, or advertising its supposed non-existence, by a more straightforward one in which he deplures that "it was ever born."

He has not hitherto given public expression of his opinion, but I think I can show that he has probably held it since the commencement. Speaking at the Holborn Restaurant on April 7th, 1913, Mr. Toope said "he thought there was no necessity for the formation of a National Association of Veterinary Inspectors, and he had drawn up a scheme which he intended to present on the following Wednesday to the Southern branch of the National Association, whereby all those present could be taken in and made members of the National without causing any possible split in the ranks of the profession." This he embodied in a proposition which was subsequently withdrawn on an agreement being arrived at by which the two Societies were to be affiliated. Ever since that time, so far as one can judge from the reports published, he has consistently ignored the existence of this Association in his advocacy of local inspectors societies, and I owe him an apology if from this, and other evidence in my possession, I have wrongly diagnosed the case as one in which "the wish is father to the thought."

The statement that the formation of this Society immediately led to the reduction of fees paid by the Kent County Council to the tune of 33 per cent. is absurd on the face of it, but even if it were true this one case of "levelling down" is more than counter-balanced by the "levelling up" on the part of many local authorities who have adopted the scale almost exactly as suggested by the Association. But this question of "levelling down" does not arise, for the reason that the only branch of inspectors' work which the Society has so far tackled is that in connection with the Tuberculosis Order, and as no fees for this work were payable prior to the formation of the Society, how could its origin have led to their reduction?

Further, if the mere preparation of a scale of suggested fees with a declared non-militant policy is to lead to a 33 per cent. reduction, what good is likely to come of Mr. Toope's efforts to collect, tabulate, and agitate for an increase of the fees commonly paid for some other kinds of veterinary work, especially when this demand for increase is accompanied by a threat that those not accepting the revised scale may expect to be boycotted (*The Veterinary Record*, May 23rd, p. 763).

Everybody knows that no local authority (or anyone else for that matter) can be forced to adopt any particular scale of fees, the preparation of which was never undertaken by the Society with this object. We simply desired to place in members' hands a suggested scale with which, if invited to do so, they could approach their local authorities, or which might be of some service and support to them in their efforts to obtain adequate remuneration for very responsible work. If the list of suggested fees has been used in any way other than that intended, if, that is to say, it has been put forward in the nature of a demand, the authorities would naturally resent the impropriety and, in this event, a 33 per cent. reduction, in my opinion, would be all too small in comparison with the amount of tact displayed. Will Mr. Toope tell us in what other way this levelling down of the fees paid by the Kent authorities has resulted for anything this Association has done.—Your obedient servant,

TREVOR F. SPENCER, Hon. Sec.

Kettering, June 2nd.

A CORRECTION.

Sir,

I should be pleased if you would note a slight correction in your report of the discussion at the meeting of the Midland Counties V.M.A. What I stated in speaking of an outbreak of foot-and-mouth disease was, that I had since seen animals with very similar lesions in the mouths and on the coronets, and also shaking their feet, but had never since noticed the peculiar smacking sounds referred to by Mr. Trigger.—Yours faithfully,

A. B. FORSYTH.

Cannock, Staffs.

Veterinary Societies—Addresses.

BORDER COUNTIES V.M.S.

Pres: Mr. J. W. Hewson, M.R.C.V.S., Wigton

Hon. Sec. (pro tem.): Mr. F. W. Garnett, M.R.C.V.S.,

Dalegarth, Windermere

Meetings, Second Friday of Feb., June, and October

GLASGOW V.M.S.

Pres. Principal McCall.

Hon. Sec. Mr. J. D. Fulton, 83 Buccleuch Street, Glasgow

ROYAL VETERINARY COLLEGE V.M.A.

Pres: Prof. E. Brayley Reynolds.

Hon. Sec: Mr. B. Gorton, M.R.C.V.S. Assist. Mr. E. E. Jelbart

ASSOCIATION OF VETERINARY OFFICERS OF HEALTH

Pres: Mr. T. Douglas, M.R.C.V.S., Kilmarnock

Hon. Sec. & Treas. Mr. A. M. Trotter, M.R.C.V.S.,

Moore Street, Abattoir, Glasgow

NATIONAL ASSOCIATION OF VETERINARY INSPECTORS

Pres: Mr. J. Abson, F.R.C.V.S., Sheffield

Hon. Sec: Mr. Trevor Spencer, M.R.C.V.S., Kettering

MUNSTER VETERINARY INSPECTORS' ASSOCIATION

Pres: Mr. D. M. Barry, M.R.C.V.S., Mallow

Hon. Sec: Mr. T. I. Alexander, M.R.C.V.S., Kinsall

NATIONAL VETERINARY BENEVOLENT & MUTUAL DEFENCE SOCIETY.

Pres: Mr. W. A. Taylor, F.R.C.V.S., Brick-st., Manchester

Hon. Sec: Mr. G. H. Locke, M.R.C.V.S.,

Grosvenor Street, Oxford-st., Manchester

Treas: Mr. J. B. Wolstenholme, F.R.C.V.S.,

Quay-street, Manchester

VICTORIA VETERINARY BENEVOLENT FUND.

Pres. Mr. R. C. Trigger, J.P., Newcastle, Staffs.

Hon. Sec. & Treas: Mr. W. Shipley, F.R.C.V.S.,

South Town, Great Yarmouth

COLONIAL SOCIETIES (continued next page)

VETERINARY ASSOCIATION OF NEW SOUTH WALES

Pres: Mr. S. T. D. Symons, M.R.C.V.S., Chief Insp. of Stock

V. Pres: Maj. A. P. Gribben, F.V.O., M.R.C.V.S.

Hon. Sec. & Treas: Mr. Max. Henry, M.R.C.V.S., B.V.Sc. (SYD).

56 Bridge Street, Sydney.

BRITISH COLUMBIA V.M.A.

Pres: Dr. Gibbons, M.R.C.V.S., Vancouver,

Hon. Pres: Dr. Hamilton, M.R.C.V.S., Victoria.

Sec., Treas., Registrar. Dr. T. Jagger, V.S., Vancouver.

ASSOCIATION MÉDICALE VÉTÉRINAIRE FRANÇAISE "LAVAL"

Sec: Mr. J. P. A. Haude, Montreal

PROVINCE OF QUEBEC V.M.A.

Hon. Sec. Mr. Gustave Boyer, Rigaud, P.Q.

VETERINARY ASSOCIATION OF ALBERTA

Hon. Sec. Mr. C. H. H. Sweetapple,

For Saskatchewan, Alta, Can.

ONTARIO V.A.

Pres: Mr. J. H. Tennent, v.s., London, Ontario

Sec. & Treas: Mr. L. A. Wilson, Toronto, Ontario

TRANSVAAL V.M.A.

Pres: Mr. C. E. Gray, F.V.S., Box 134, Pretoria.

Hon. Sec: Mr. P. Conacher, v.s., Box 877, Johannesburg

NATIONAL VETERINARY ASSOCIATION*Past President:* Mr. W. Woods, F.R.C.V.S., Wigan*Sec:**Assist. Sec:* Mr. W. L. Harrison, F.R.C.V.S.,

11 Anchor Terrace, Southwark Bridge, S.E.

Treas: Prof. G. H. Wooldridge, F.R.C.V.S.,

Ryl. Vet. Coll., Camden Town N.W.

Northern Branch:*Pres.* W. A. Taylor, (F) Brick Street, Manchester*Hon. Sec.* A. W. Noël Pillers, (F)

71 Smithdown Lane, Liverpool

LANCASHIRE V.M.A.*Pres:* Mr. G. H. Locke, M.R.C.V.S.,

Grosvenor-street, Manchester

Hon. Sec. Mr. J. W. Brittlebank, M.R.C.V.S.,

Town Hall, Manchester

Hon. Treas: Mr. E. H. Stent, M.R.C.V.S., Preston-st, Hulme*Meetings,* 1st Thursday in April, June, Sept., & Dec.**LIVERPOOL UNIVERSITY V.M.S.***Pres:* Mr. J. P. Heyes, F.R.C.V.S., Wigan*Hon. Sec:* Mr. A. Walker, M.R.C.V.S., Mill Lane, West Derby*Pathological Sec:* Mr. D. C. Matheson, F.R.C.V.S.*Meetings,* May, July, October, January.**MIDLAND COUNTIES V.M.A.***Pres:* Mr. J. Malcolm, F.R.C.V.S., Birmingham*Hon. Sec:* Mr. H. J. Dawes, F.R.C.V.S.,

Camden House, High-st., West Bromwich

Hon. Treas. Mr. J. J. Burchnall, M.R.C.V.S., Barrow-on-Soar*Meetings,* Second Tuesday, Wednesday, Thursday, and Friday alternately in Feb., May, Aug. and Nov.**NORTH OF ENGLAND V.M.A.***Pres:**Hon. Sec:* T. T. Jack, M.R.C.V.S., 3 Elmwood Ter, Sunderland*Meetings,* Third Friday, Feb., May, Aug. and Nov.**NORTH MIDLAND VETERINARY ASSOCIATION***Pres:* Mr. F. L. Somerset, M.R.C.V.S., Chesterfield*Hon. Sec:* Mr. J. S. Lloyd, F.R.C.V.S., Sheffield**NORTH WALES V.M.A.***Pres:* Mr. Hugh Williams, M.R.C.V.S., Ty Croes*Hon. Sec.* Mr. L. W. Wynn Lloyd, M.R.C.V.S., Carnarvon*Meetings,* First Tuesday, March and September**SOUTH DURHAM AND NORTH YORKSHIRE V.M.A.***Pres:* Mr. J. M. Walker, F.R.C.V.S., Hartlepool*Hon. Sec. & Treas:* Mr. J. H. Taylor, F.R.C.V.S.,

Grange Road, Darlington

Meetings, First Friday, Mar., June, Sept. and Dec.**YORKSHIRE VET. ASSOCIATION***Pres:* Mr. J. Abson, F.R.C.V.S., Norfolk Street, Sheffield*Hon. Sec:* Mr. J. Clarkson, M.R.C.V.S., Garforth, nr. Leeds*Hon. Treas:* Mr. A. McCarmick, M.R.C.V.S.,

Kirkstall-road, Leeds

Southern Branch:*Pres.* Sir Stewart Stockman, 4 Whitehall Place, S.W.*Sec.* T. C. Toope, 34 High Street, Dover**CENTRAL V.S.***Pres.* Prof. G. H. Wooldridge, R.V. Coll., Camden Town.*Hon. Sec:* Mr. H. A. MacCormack, M.R.C.V.S.,

122 St. George's Avenue, Tufnell Park, N.

Meetings, First Thursday in each month, except August and September, 10 Red Lion Square, Holborn, at 7 p.m.**EASTERN COUNTIES V.M.A.***Pres.* Mr. W. L. Little, F.R.C.V.S., Great Yarmouth*Hon. Sec. & Treas:* Mr. A. C. Holl, M.R.C.V.S.,

New Buckenham

Meetings, Second Tuesday, Feb., July and Sept.**LINCOLNSHIRE AND DISTRICT V.M.S.***Pres.* Mr. C. W. Townsend, F.R.C.V.S.,

Long Stanton, Cambridge

Hon. Sec. & Treas: Mr. Tom Hicks, M.R.C.V.S.,

Boston Road, Sleaford

Meetings, Second Thursday Feb., June, and October**ROYAL COUNTIES V.M.A.***Pres:* Mr. J. C. Coleman, M.R.C.V.S., Swindon*Hon. Sec. & Treas:* Mr. G. P. Male, M.R.C.V.S., Reading*Meetings,* Last Friday, Jan., April, July and Nov.**SOUTHERN COUNTIES V.S.***Pres:* Mr. G. H. Livesey, M.R.C.V.S., Hove, Sussex*Hon. Sec:* Mr. A. H. Archer, M.R.C.V.S., Southsea, Portsmouth*Hon. Treas:* Mr. E. W. Baker, M.R.C.V.S., Wimborne*Meetings,* Last Thursday, Mar., June and Sept.**SOUTH EASTERN V.A.***Pres.* Mr. E. Lyne Dixon, M.R.C.V.S., Margate*Hon. Sec. & Treas.* Mr. Theo. C. Toope, M.R.C.V.S.,

34 High Street, Dover

*Meeting,***WESTERN COUNTIES V.M.A.***Pres:* Mr. W. P. Stableforth, F.R.C.V.S., Colyton, Devon*Hon. Sec.* Mr. W. Ascott, M.R.C.V.S., Bideford*Hon. Treas:* Mr. P. G. Bond, M.R.C.V.S., Plymouth*Meetings,* Third Thursday, March, July and November**Irish Branch:***Pres.* Mr. W. Watson, Municipal Buildings, Dublin*Sec.* Mr. P. D. Reavy, Leafield, Bunderan, Co. Donegal**CENTRAL V.A. OF IRELAND.***Pres:* Mr. B. P. J. Mahony, M.R.C.V.S., Maryborough*Hon. Sec.* Mr. E. C. Winter, F.R.C.V.S., Queen-st., Limerick*Treas:* Mr. J. F. Healy, M.R.C.V.S., Midleton**CONNAUGHT V.M.A.***Pres.* Mr. D. Hamilton, M.R.C.V.S., Ballina*Hon. Sec. & Treas.* Mr. A. J. Moffett, M.R.C.V.S., Galway**VET. MED. ASSN. OF IRELAND.***Pres:* Mr. P. D. Reavy, M.R.C.V.S., Leafield, Bunderan*Hon. Sec:* Prof. J. J. O'Connor, M.R.C.V.S., R.V. Coll., Dublin*Hon. Treas:* Prof. J. F. Craig, M.A., M.R.C.V.S.,

R.V. Coll., Dublin

NORTH OF IRELAND V.M.A.*Pres:* Mr. J. A. Jordan, M.R.C.V.S., Belfast*Hon. Sec:* Mr. J. Ewing Johnston, M.R.C.V.S., Belfast*Hon. Treas:***Scottish Branch:***Pres.* Dr. O. Charnock Bradley, } Ryl. (Dick) Vet.*Hon. Sec.* Prof. A. Gifton, } Coll.: Edinburgh**NORTH OF SCOTLAND V.M.S.***Pres:* Mr. W. Marshall, M.R.C.V.S., Aberdeen*Hon. Sec. & Treas:* Mr. G. Howie, M.R.C.V.S., Alford, Aberdeen*Meetings,* Last Saturday in January and August**ROYAL SCOTTISH V.S.***Pres:* Mr. Reid, M.R.C.V.S., Auchtermuchty.**SCOTTISH METROPOLITAN V.M.S.***Pres:* Mr. J. Riddoch, M.R.C.V.S., Edinburgh*Hon. Sec. & Treas:* Mr. Jas. Henderson, M.R.C.V.S.,

Public Health Dept., City Chambers, Edinburgh

WEST OF SCOTLAND V.M.A.*Pres:* Prof. John R. McCall, M.R.C.V.S., Vety. Coll. Glasgow*Hon. Sec:* Mr. J. F. Macintyre, M.R.C.V.S.,

19 Bank Street, Hillhead, Glasgow

Hon. Treas: Mr. Geo. W. Weir, M.R.C.V.S.,

88 Crookston Street, Glasgow

Meetings, Second Wednesday, May, Oct. and January.**COLONIAL SOCIETIES: (see preceding page)****CAPE OF GOOD HOPE V.M.S.***Pres.* Mr. J. D. Borthwick, M.R.C.V.S., Cape Town*Hon. Sec. & Treas.* Mr. J. W. Crowhurst, F.R.C.V.S.,

Longmarket Street, Cape Town

CENTRAL CANADA V.A.*Pres.* Mr. Geo. Hilton*Hon. Sec:* Mr. Charles Evans, Ottawa**VET. ASSN. OF MANITOBA.***Pres:* Dr. W. R. Taylor, Portage la Prairie*Hon. Sec. & Treas:* Mr. Wm. Hilton, Winnipeg**NATAL VETERINARY MEDICAL ASSOCIATION.***Pres.* Mr. F. J. Carlees, M.R.C.V.S., Mooi River*Hon. Sec. & Treas.* Mr. A. Goulé, Eshowe, Zululand

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

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THE INTERNATIONAL VETERINARY CONGRESS.

The arrangements for this Congress are now far advanced, and everything augurs success. The donation list still remains open, but enough has been collected to remove all fear of financial difficulties. Ample support—as much, indeed, as any British Government could be expected to give to a professional Congress—is being accorded by the State. The King has graciously consented to become the Patron of the Congress. The President of the Board of Agriculture is Chairman of a powerful Honorary Committee, which also includes the Lord Mayor of London, and the Ambassadors, Envoys, and Plenipotentiaries of the various countries represented at the gathering. Apart from the serious work of the Congress, a most attractive social programme has been prepared, full details of which will shortly be announced.

One other thing is now necessary to ensure a completely successful Congress, and that is a good attendance of members from the British Islands. A record attendance of foreigners is expected, but they will not be favourably impressed with our national *esprit de corps* if only a few of us assemble to meet them. In that case there might be a partial failure, which a good attendance will avert.

We have many other reasons for attending this Congress. Many of us cannot well attend it abroad, but most can here, and as it is not likely to meet again in England for many years, this is the chance of a lifetime to some. The time of year is as convenient as any for a holiday, and there are special travelling facilities. The railway companies will grant return tickets on excursion terms to members in Great Britain on the production of vouchers.

Members are therefore urged to attend the Congress and bring their lady relatives, registering the latter as external members. The fee for this—the “lady’s subscription” is only five shillings—and only such ladies as are so registered will be admissible to the evening functions.

All the Governments whose veterinarians take part in the Congress are encouraging it through their diplomatic representatives in London. Our Government is doing as much for it as our national usage permits. And we veterinary surgeons in Great Britain and Ireland have already done more than veterinary surgeons abroad are ever required to do—we have succeeded in financing the Congress. Having done that, we must not fail to crown our success by a good attendance.

SARCOMA OF LIVER AND SPLEEN IN DOG.

The subject of the following case, a small sized Airedale terrier dog, was brought to me for treatment at the Government Dispensary, Nairobi, some time ago.

On casual examination one could observe marked distention of the abdomen, and ascites was suspected. But on palpation it soon became evident that the great enlargement of the cavity was due, not to dropsical fluid but to a large firm mass which was quite readily detected through the abdominal wall, and a tumour was diagnosed.

The mucous membranes were yellow, bowels constipated, and the appetite in complete abeyance. The animal was in an extremely weak and emaciated condition, which only tended to show up more clearly the pendulous and enormously distended abdomen.

According to the history as furnished by the qualified Indian Veterinary Assistant at the Dispensary, this animal had been brought at frequent intervals for treatment during the last twelve months for congestion of the liver and indigestion, and it was only during the last month that the abdomen was noticed getting gradually larger and more pendulous, and that ascites was suspected.

The appetite had never been too good, and the bowels were always more or less constipated.

As the prospects of a successful operation were remote, the painless destruction of the animal was advised, and to this course the owner reluctantly decided.

In order to satisfy myself that the condition was really hopeless, and that no permanent relief could be given, I prepared the site of incision and chloroformed the animal as for operation.

On opening into the cavity a large amount of blood-tinged serum escaped, roughly two pints. The incision being continued the spleen, enormously enlarged and nodulated on its surface, came to view, and so finally decided the destruction of the animal.

After death the cavity was laid open, and revealed the marked alteration in structure of the liver and spleen, as nearly the whole normal tissue of these organs was replaced by tumour tissue. Even the epiploon was invaded by myriads of small tumour-like bodies, evidently immature forms of the same neoplasm formation.

The liver and spleen weighed respectively 6½ and 2 lbs.

On a piece of liver and spleen being submitted to Mr. R. E. Montgomery, Veterinary Pathologist,

for examination, he gave it as his opinion that the tumour formation was mixed celled sarcoma.

The rarity of the condition and the opportunity afforded of presenting the excellent photographs, which were taken at the time by Mr. R. J. Stordy, Chief Veterinary Officer, and which so clearly show up the lesions found on post-mortem, are the reasons for publishing the case.

W. W. HENDERSON, M.R.C.V.S., D.V.S.M. (Vict.)
Veterinary Officer.

Nairobi, B.E.A.

HYSTERIA IN A MARE,

Subject. A twelve-year-old Hackney mare with foal at foot, bred by the owner, had had four previous foals.

History. The mare was served on Thursday evening last, by a well known hackney stallion, the sire of all her previous foals, and the service seemed quite satisfactory. However, the stud groom advised the owner that she should be left at the stud overnight and be put to the horse again on the following morning. Early on Friday morning it was noticed that something was wrong, and assistance was sent for.

Symptoms. The animal was found to be very uneasy and apparently suffering great pain. The head was stretched out and the tail highly elevated. All the muscles of the frame were hard and tense, and the least excitement set them into tonic contractions. She grated her teeth persistently, and saliva ran freely from the mouth, as there appeared to be some difficulty in swallowing. An examination of the vagina revealed a highly congested condition of the mucous membrane, and the labia of the vulva were constantly opening and closing, each movement being attended by a desire to micturate. Now and again a small quantity of thick whitish urine would be ejected. The pulse was quick and irritable,

Treatment. She was put into a dark, quiet loose box with her foal, and given a liberal supply of water. No attempt to administer any medicinal agent was thought of, owing to the state of excitement of the animal when handled.

When again visited in the evening most of the urgent symptoms had passed off, although the grating of the teeth still persisted. On Saturday morning she was practically well again, and had begun to eat a little, and since then has shown no further signs of any excitement.

It is of interest to know that the mother of this mare, also the property of the above owner, exhibited similar symptoms two years ago, after being served by the same horse.

D. KEIR.

Market Weighton, Yorks.

GOVERNMENT PUBLICATIONS.—Messrs. Wyman and Sons, Ltd., official sale agents in England and Wales for Parliamentary papers and Stationery Office publications have issued the following, post free. Board of Agriculture, Report of the Chief Veterinary Officer for 1913 price 3½d.

FATAL POISONING BY THE EXTERNAL APPLICATION OF OIL OF TAR.

The subject of this case was a black pony, aged about eight years, and about 14 hands high. The owner noticed two or three bare spots on the skin, and fearing lest the cause of these might be mange he decided to dress the animal all over with train oil. By mistake, however, *oil of tar was used instead of train oil*. The owner dressed the pony all over with the oil of tar, using in all about three pints. This was done at about 6 p.m. On his return to the stable at 7 p.m. the pony was found to be in great pain and blowing badly; it soon after fell down and was unable to rise again. I was sent for and saw the pony at about 8.30 p.m. The animal was then lying on its off side, all four limbs were stretched out and quite rigid, jaws tightly clenched, pulse imperceptible at submaxillary artery, there were frequent twitchings of the muscles of the trunk, consciousness was quite lost, no response being shown to the corneal reflex test.

Prognosis, naturally, was very unfavourable. I had the whole of the body well washed with soap and water, and then douched with cold water. Emollients were applied to the skin, stimulants given, and the pony then well covered with loose straw. Death, however, occurred in about three hours.

No doubt the poisoning was due to crude carbolic acid contained in the oil of tar. The chief points of interest in the case to my mind are:

1. The remarkably rapid progress of the poisoning.
2. The fact that there is sufficient acid in oil of tar to kill a horse in a few hours when applied to the skin in its crude state.

RALPH BENNETT, F.R.C.V.S.

Romford.

ABSTRACTS FROM FOREIGN JOURNALS

EQUINE EPIZOOTIC ABORTION.

K. F. Meyer and Fred Boerner report (*The Journal of Medical Research*, 1913) the results of their investigation of an outbreak of epizootic abortion amongst horses in Pennsylvania. They found the cause of the outbreak to be a bacillus belonging to the sub-group C. of the paratyphoid-enteritis group. They propose the name of *Bacillus abortus equi* for this organism.

This bacillus possesses all the properties of the bacteria that are classed in the paratyphoid B group: but can be distinguished from them by possessing the two properties of forming membranous, dry, brittle deposits on sloping agar, and of ability to produce a considerable gas-formation in sugar. The *B. abortus equi* is only agglutinated by a paratyphoid B. serum or an enteritis serum in low dilution.

The authors found that abortion could be produced with cultures introduced subcutaneously,

intravenously, and intravaginally, and also by feeding, in a variety of animals, viz., one cow, one goat, one sow, and rabbits and guinea-pigs. The average period of incubation was fifteen days. The abortion bacillus of the horse is pathogenic for guinea-pigs, rabbits, mice, rats, and pigeons. The anatomical lesions resemble those of a paratyphoid infection. Rabbits are more susceptible than guinea-pigs.

Agglutination and complement-fixation can be regarded as useful methods in establishing an infection with the bacillus. Further investigations are required to explain the method of natural infection.—(*Berliner Tier. Woch.*)

EQUINE MUSCULAR RHEUMATISM COMPLICATED WITH PETECHIAL FEVER AND ENDOCARDITIS.

Prof. Fröhner records (*Monatshefte für Prakt. Tierheilkunde*) this case of a horse. At the beginning of the illness the symptoms were vague, but after a few days one fore fetlock joint suddenly showed inflammation without demonstrable cause, the other fore fetlock followed suit two days later, and the diagnosis of articular rheumatism could be made. Hyperleucocytosis and considerable cardiac weakness were also present. The next day the right knee joint also became inflamed. Treatment by aspirin was instituted, and was followed by a reduction of the temperature, but the pulse rate remained high, and finally the appetite was destroyed. On the latter account sodium salicylate was then given *rectally* to the amount of 100 grammes (= approximately 3½ oz.) daily, with better results. The cardiac weakness and the tachycardia, however, still persisted. A few days later numerous petechiæ, ranging up to the size of a millet seed, appeared in the anterior part of the nasal mucous membrane. The pulse rate had risen to 100, but the sounds of the heart were still clear, without accessory sounds. The horse received petechial fever serum. Improvement now set in, and the inflammations of the joints disappeared. Suddenly, however, the horse died of cardiac paralysis. Post-mortem, an ulcerous endocarditis was found on the tricuspid valves, and a chronic fibrous endocarditis on the bicuspid valves, together with dilatation of the heart, blood stasis in the lungs, and pulmonary œdema.—(*Berliner Tier. Woch.*)

SEPTICEMIA IN CALVES FROM THE MEAT INSPECTOR'S POINT OF VIEW.

Luxwolda describes (*Tydschrift voor Veeartsenij-kunde*) the lesions which he observed in 62 calves affected with septicæmia. He arrives at the following conclusions:

The meat may be considered wholesome when the flesh and the intermuscular lymphatic glands contain coli bacteria, provided that the flesh has not a disagreeable odour and that the number of bacteria is not too considerable. The meat should be condemned when it contains paratyphoid bacilli, as they belong to the group of *bact. Gartner* or to the paratyphoid B. group. In this connection the author shares the views of Bugge and Franke.

Other authors, Iunack in particular, think that only meat containing *bact. Gartner* should be condemned, because these germs produce toxins which resist boiling, while boiling renders the paratyphoid B. organisms inoffensive. Although this view may be sustained theoretically, the author nevertheless thinks that it might be dangerous to put it into practice. It should be remembered that the distinction between these two groups of germs can only be established by agglutination tests, which necessitate a good deal of time. Moreover, their toxic power and pathogeny for man and animals, as well as the particular conditions which modify that power, are as yet very little known. The author also thinks that there is a difference between the *Gartner* bacilli of the septicæmia of calves and the *Gartner* bacilli which are pathogenic to man, the first-named having little or no pathogeny for human beings. Up to the present, it is unknown whether there are any special influences capable of augmenting the toxicity of these bacilli for man, but it may be considered as certain that the agents capable of causing these flesh-intoxications are very variable and adapt themselves with facility to the media of different animals. In any case, the author thinks that it is necessary to be extremely prudent in the examination of calves affected with septicæmic conditions. A minute bacteriological examination alone permits a sound judgment to be formed.—*Annales de Méd. Vét.*

THE EVOLUTION OF THE HYPODERMA BOVIS.

Adrien Lucet, of the Laboratory of Comparative Pathology at the Paris Museum, reports (*R. C. Ac. des Sciences*) the result of investigations he has made into this question. The *Hypoderma bovis* causes enormous losses to agriculture by the damage it causes to the skins of cattle alone. The author's conclusions, commencing a survey of the life-cycle at the moment when the larva leaves the subcutaneous nodule it has formed, are as follows:—

1. In our climate (presumably the French climate—*Transl.*) the larvæ quit their subcutaneous refuge in May, June, and July.
2. The larvæ fall upon the ground, remain there at its surface, and are transformed into pupæ in from twenty-four to thirty-six hours.
3. The average duration of nymphosis is from thirty to thirty-five days.
4. The hatching of the perfect fly takes place at all hours of the day—not in the morning only, as is asserted in Germany. Hatching is accomplished in a few minutes, and the insect is ready to fly.
5. Among the enemies of the larvæ are small rodents, birds, insects, and even certain fungi (notably *Mucor*), which penetrate through the chitinous integument, vegetate upon the chrysalides, and destroy them.
6. It is easy to rear the larvæ in the laboratory at the ordinary temperature, either upon grass, or more particularly, upon a layer of cotton wool.
7. The fly is only encountered from the middle of June to the beginning of September. The average duration of its life is only from four to five days.

8. The eggs, which average 360 in number, are deposited by the female upon the surface of the skin and upon the hairs, to which they adhere.

9. The larvæ may easily be killed by once or twice injecting $\frac{1}{2}$ c.c. or 1 c.c., of pure or diluted tincture of iodine into the parasitic nodules. Resorption takes place rapidly.—*Annales de Méd. Vét.*

POISONING BY OLEANDER LEAVES IN THE HORSE.

Leicht, of Isen, records the case of an eight-year-old heavy draught horse which, while waiting in front of a tavern, ate some oleander leaves growing near. The next day the animal showed loss of appetite, cerebral depression, and violent diarrhoea. The respirations were frequent and deep. The pulse was irregular and uneven, and counted 60 to the minute. The rectal temperature was 102.2° F. The day afterwards the condition grew worse. The pulse became almost imperceptible, the horse trembled violently upon the fore extremities, and there was frequent straining to defecate and urinate. The rectal temperature was now 104.5° F., the respirations were very frequent, peristalsis was very lively, the abdomen showed a moderate degree of tympany, and the mucous membranes of the head were bright red. Death took place forty-eight hours after the oleander leaves were eaten. The author says nothing of any post-mortem examination, and does not indicate the treatment he adopted.—*Munch. Tier. Woch.*

W. R. C.

SARCOSPORIDIN

Is the name of a toxin derived from sarcosporidia (*Sarcocystis tenella*) possessing lethal qualities for sheep, goats, and rabbits, white rats and sparrows. It produces paralytic symptoms and anaphylactic shock. In rabbits progressive doses result in immunisation, but of short duration.—*Cent. f. Bakt.*

F. E. P.

ANTI-ABORTION VACCINE EXPERIMENTS.

The results of a number of important epizootic abortion experiments which have been carried out in Oxfordshire were embodied in an interesting report presented to the Education Committee of the County Council. The report has been prepared by Mr. G. R. Bland (Staff Instructor in Agriculture), and deals with experiments carried out in 14 herds during the period 1911 to 1913.

The report points out at the outset that Oxfordshire is every year becoming more and more important as a milk-producing county. The extent of the industry may be realised when it is considered that in the year 1911 there were, according to the returns of the Board of Agriculture and Fisheries, 23,824 cows and heifers in the county; 16,390 of these animals were in milk. Supposing that the average annual yield of each cow in Oxfordshire is 550 gallons, there was produced in the year 1911 a total yield of 9,014,500 gallons. This quantity, valued at 8d. gallon, was worth no less than £300,483. Owing to the prevalence of "contagious abortion" and to the many requests for advice received as to the best methods to adopt for its prevention and eradication from herds, it had for a long time been felt

that some carefully conducted trials of different methods were necessary. The Board of Agriculture offered to supply vaccine free of charge to inoculate cows in infected herds in Oxfordshire, the Local Education Authority employing veterinary surgeons to do the inoculation and undertaking to keep complete records of each animal inoculated. Many farmers were willing to try the treatment. In most herds two or three cows abort each year, and from inquiries made it would seem that there are very few herds in the county which have not suffered or are not suffering from contagious or epizootic abortion.

Fourteen infected herds were selected for the experiments and were chosen from the following groups; (1) Herds where above 20 per cent. of the cows aborted in the year previous to the beginning of the experiments, and where the disease had been prevalent for several years; (2) Herds where less than 20 per cent. of the cows aborted in 1910, but in which several of the cows regularly aborted each year; (3) Breeding herds, where practically no outside animals are brought into the herd; (4) Herds where very little rearing is done and in which cows are being continually brought in from outside.

There are no data available to calculate the loss due to this disease annually to the county. It would probably be greatly exaggerated if it were assumed that the percentages of abortion throughout the county due to this disease were equal to the results obtaining with the controls (*i.e.*, the uninoculated animals) in these herds, but if for the purposes of this report this assumption is made then the loss in the county would reach at least £30,000 per annum, even when the at present low value of 35s. per calf is taken and when the depreciation in market value of a cow which has aborted is taken at £5.

It is the opinion of several prominent Oxfordshire dairy farmers that the loss due to each case of abortion may be estimated at between £7 and £8.

In these experiments as 18 out of every 100 uninoculated animals (controls) aborted, the assumed number of cases of abortion per annum would be 18 per cent. of 23,824—the total number of cows and incalf heifers in county—*i.e.*, 4,288 cases of abortion. Taking the loss for each case at £7, the total loss would be about £30,000 per annum. No value has been assigned to the breeding value of the cow to the owner and to his loss when he is compelled to buy cows in order to keep the yield of milk up to his contract.

Even if not more than 10 per cent. of the herds are affected, and there is reason to suppose that this is a low estimate, the loss to the county must reach several thousands pounds per annum, and therefore anything that can be done to reduce this loss must be of great value to the dairy farmers.

Two methods of immunisation were tried:—

IMMUNISATION OF NON-PREGNANT COWS OR HEIFERS

"**Anti-Abortion A** is injected into non-pregnant heifers or cows two months before they are put to the bull in the hope that they will resist infection when exposed in a herd in which contagious abortion exists and carry their calves to full term. The anti-abortion is injected under the skin of the neck. Heifers are usually immunised, but any empty cows or heifers which have aborted or not, should be immunised. Twenty-five per cent. of the empty cows or heifers on such farms should not be immunised but left as controls, for it is by comparison of the after behaviour of the immunised and the unimmunised (*i.e.*, controls) that the value of the method is to be judged. If both methods—Anti-abortion A and B—are being tried on the same farm, 25 per cent. of the cows and heifers will act as a control to both methods.

IMMUNISATION OF PREGNANT ANIMALS.

Anti-Abortion B. Small doses are injected under the skin of the neck of pregnant animals monthly, the first injection to begin immediately they have ceased bulling after service, and the last during the seventh month of pregnancy. No first injection should be given later than the first month of pregnancy. Twenty-five per cent. of the cows and heifers on the farm should be left unimmunised as controls. If both methods are being tried on the same farm 25 per cent. of the total cows and heifers will act as a control to both methods.*

Table showing the number of animals under treatment and how they calved :—

	Anti- Abortion A.	Anti- Abortion B.	Controls.
Animals	253	112	296
Heifers	70	0	51
Cows	193	112	245
Aborted	15	17	54
Barren	22	12	13*
Calved correctly	223	83	229

* At first 167 controls were left, and of these 13 were barren, but later the number of controls was further increased to 296—all uninoculated animals in a herd being taken as controls—and the total number of controls that were barren is not known.

The term "heifer" is here applied to all females up to the time of having their first calf, after which they are called cows.

The following is a summary of the results :—

Before experiments began (during 1910) 28·9 per cent. (i.e., about 1 in every 4 animals) aborted.

After Anti-Abortion A treatment, 5·7 per cent. (i.e., about 1 in every 18 animals) aborted.

After Anti-Abortion B treatment, 15·1 per cent. (i.e., about 1 in every 7 animals) aborted.

Among the controls 18·2 per cent. (i.e., about 1 in every 6 animals) aborted.

When it is considered that there was a tendency to inoculate all the animals it was thought most likely to abort, and that the animals under Anti-Abortion A treatment were on the average younger than those left as controls and therefore more likely to abort, the results are on the whole much in favour of the Anti-Abortion A treatment. In most of the herds it was the exception for a cow which had once aborted to be kept and bred from again. Altogether 66 cows which aborted in 1910 were inoculated.

THE TREATMENT OF ABORTED COWS.

	Animals.	Aborted.	Barren.	Calved Correctly
Anti-Abortion A	43	2	12	29
" " B	13	6	2	5
Controls	10	4	4	2

The results on cows which aborted in 1910 were :—

Under Anti-Abortion A treatment, 4·6 per cent., or 1 in every 21, aborted again.

Under Anti-Abortion B treatment, 46 per cent., or 1 in every 3, aborted again.

Left as controls 40 per cent., or 1 in every 3 aborted again.

A great deal of trouble had been experienced on some of the farms before the trials began owing to the number of heifers aborting. On those farms where the trouble was the greatest most of the heifers were inoculated and very few left as controls.

"A" TREATMENT ON HEIFERS.

	No.	Aborted.	Barren.
Anti-Abortion A	70	4	5
Left as controls	51	7	4

5·7 per cent., or 1 in every 17 of the heifers under Anti-Abortion A treatment, aborted.

13·7 per cent., or 1 in every 7 of the heifers left as controls, aborted.

In some general notes on the Oxfordshire experiments, Mr. Bland says no separation of the affected and suspected animals was attempted during the trials. The inoculation did not upset the animals to any great extent. On some farms the cows undergoing the B treatment gave slightly less milk at the night's milking on the day of the inoculation. Slight swellings were noticed in some cases after inoculation. The swellings disappeared in about three months. The A treatment has on the whole given better results than the B treatment. On those farms where the heifers had been aborting for some years, there were very few cases after inoculation with Anti-Abortion A, and on two or three farms where this trouble was the worst, not a single heifer aborted after inoculation. Of cows which had aborted before inoculation only 1 in every 21 aborted after the A treatment. It will be noticed from the foregoing results that there has been a sudden decrease in the number of cases of abortion among the inoculated animals on practically all the farms. If this had been an isolated instead of an average result, and had been true of the controls also, then it might have been put down to the disease wearing itself out on a particular farm, but this could hardly be the case at all 14 centres, for as mentioned before, the centres were chosen from farms falling into four very dissimilar groups. The animals under the Anti-Abortion A treatment have consistently calved better than those left as controls, even although the controls in most cases were chosen from older animals.—*Farmer and Stockbreeder.*

REPORT OF THE VETERINARY DEPARTMENT OF THE GOVERNMENT OF THE GOLD COAST FOR THE YEAR 1912. [ABSTRACT]

The staff sanctioned for the year was one veterinary officer, one veterinary dispenser, one dispenser pupil, and one 6th grade clerk, being no increase over the staff granted for the year 1911.

The dispenser pupil, Mr. Anyawuo, resigned and left on the 19th April. There was considerable difficulty experienced in filling this vacancy. Suitable youths who have passed Standard VI. or VII. would not come forward to undertake to learn this class of work at a salary of £24 per annum. The vacancy was, however, filled by an Ashanti youth named R. W. Kaye who has passed Standard IV.; he commenced his training on October 2nd. From the 19th of April to the 17th of September the available staff to carry on the technical work at headquarters was the veterinary dispenser.

Finance.—The approved estimates for the year were as follows: Colony £242, Ashanti £486, Northern Territories £486. Total, £1,214.

The approximate expenditure was about £714. The revenue collected during the year was £273 11s., which was paid into the local Treasury. Taking the approximate expenditure as £714, and the revenue collected as £274, it shows that the department cost the Government for the year about £440.

The work of the department has increased two-fold over that of previous years. The amount of correspondence and clerical work which has to be attended to by myself at times prevents me doing as much scientific work as I could wish.

The work carried out during the year has been (a) Teaching and training dispenser pupils; (b) Teaching farriery; (c) Daily inspection of horses belonging to Government officials; (d) Promoting better stable management; (e) Clinical work; (f) Veterinary inspec-

tion, Coomassie Town; (g) A study of the local cattle trade; (h) The daily inspection of imported cattle and the collection of Kraal fees; (i) The collection of statistics of the importation of live stock into Coomassie; (j) The inspection of animals for exportation from Coomassie; (k) The promotion of the hide, skin, and bone trade; (l) Inspection of horses and mules at Accra; (m) Inspection of cattle at Accra; (n) The study of contagious and infectious diseases together with an investigation of an outbreak of trypanosomiasis amongst horses and mules at Accra; (o) The study and collection of helminths affecting live-stock and poultry; (p) Blood work, examination of blood smears, blood counts, differential leucocyte counts, and haemoglobin tests.

HORSES AND STABLES, COOMASSIE.

In my annual report for the year 1909 I remarked on stable management, which I thought very necessary. The outcome of those remarks, which were adopted, has led gradually to a better management of horses and stables and in consequence the animals are in better health and condition. The period of life has been lengthened.

There are no Government stables in Coomassie. The existing 34 brick stables have been built privately by the officers of the Gold Coast Regiment.

No. 1 Stable 10 loose boxes built in January, 1910.

No. 2 " 16 " " in Jan. and Dec., 1912.

No. 3 " 8 " " in July, 1911.

The type of loose box is very satisfactory. The walls are of burnt brick, the ground area is 10ft. x 12ft., open in front with a 7ft. verandah; corrugated iron roofing; brick and cement manger and bucket stand on the floor. The floor is made of broken brick which is dug up and removed every six or eight weeks.

More loose boxes are badly needed, as the surplus horses have to be stabled in swish and grass stables, which are difficult to keep clean and rainproof. Outside, there are standings for every horse where grooming takes place.

Every stable is provided with a circular sand-bath 15 yards in diameter and surrounded by post-rails 7ft. high. The sand is river sand and not salty. Horses are put in these sand-baths every morning and night. The effect on their coats is excellent, and it also helps a horse to "dry off" more quickly after exercise.

All bedding is spread out in the sun all day to dry. Excellent straw is now being obtained from the trading firms, who have been good enough to allow officers to take away all that is available.

Food. Excellent dhoo grass is obtainable in sufficient quantity. It is not allowed to be cut before 10 a.m. in the dry season, or before 1 p.m. in the wet season. Immediately on being brought to the stables it is spread out to dry and not given to the horses till night time. No grazing is permitted before 4.30 p.m. at any time of the year, and then only if there has been sufficient sun.

Maize is the staple grain used here and on the coast. Comparing the analyses of maize with that of oats, which experience has proved is the best grain to feed horses on, maize is wanting in mineral salts, and also possesses a low nitrogenous ratio; for these reasons bran has been recommended to be added to the maize and is now being imported, and can be landed at Coomassie at 16s. 6d. per 112lbs. A good mixture on which the horses do well on here is half maize and half bran—7½ lbs. to 10 lbs. of each according to the size of the horse.

Guinea corn is the staple grain north of the Volta. It is good feeding, the horses like it and I think highly of it. It can, however, only be purchased in small quantities at an excessive price in Coomassie. The analysis of this grain is not available at present.

Enquiries were made with a view to getting oats out, but the price proved prohibitive. A ton of best English oats landed at Secondee would cost £16 13s. 4d. to which must be added 10 per cent. customs duty and railway freight (£5) Secondee to Coomassie. If the Customs duty and railway freight were lowered for this commodity horseowners here would be prepared to import English oats. In the treatment of trypanosomiasis the condition of a horse is the main factor, and a food substance has to be given that can easily be assimilated, for in this disease a horse quickly wastes. I am of opinion that English oats would be a success, and I strongly urge the reduction of Customs duty and railway freight enabling it to be imported here.

The system of dividing the daily feed of corn into "two feeds" as is done at Accra is against all experience. Three is the fewest number of feeds the day's corn should be divided into, but four or five feeds are better, if it can be carried out satisfactorily.

Dung pits have been condemned and are abolished. Horseboys now carry all excreta and soiled bedding, etc., to the incinerators, where it is immediately burnt. This system has very markedly lowered the number of biting flies about (chiefly stomoxys).

It should be remembered that the horse is not a forest bred animal, but comes from the plains of the north, where the climate is totally different to that here. Coomassie is a town situated in a clearing in the Ashanti forest. To keep horses fit and well in a country like this, no deviation from the common rules of stable management should be allowed.

Farriery.—At the commencement of the year, the shoeing work was handed over to the Pioneer Company Gold Coast Regiment, but still has the supervision of the veterinary officer. The wear and tear of the unshod foot in this iron-stone country is tremendous. It is said that the average growth of the hoof of the horse is about four inches a year. The experience arrived at here on close observation is that the majority of horses in hard work require shoeing at the end of each month, the shoe being worn out at the toe; this means practically the wearing away of three inches of iron in comparison to the growth and wear of four inches of horn.

There are four farriers in Coomassie who were trained by this department. Their work improves with experience, so much so that when time expired they will be able to take their place at any of the towns where shoeing of horses and mules in transport work is adopted.

In the month of November two constables of the Northern Territories Constabulary arrived to undergo a course of training in this art. I am quite pleased with the progress they have made.

Clinical Work, Coomassie. At the close of the year there were 52 horses in the Military lines, 12 in the Hausa Zongo, and one in the town. There were also 3 mules in Millers Transport Department.

During the year two horses were anaesthetised with chloroform for surgical operations, one horse taking 4 ounces for the removal of a scirrhus cord, and the other taking 8 ounces for the operation of castration.

The number of cases treated was 151; of deaths was 15, five of which occurred in the Hausa Zongo; and of horses destroyed, 2.

The four diseases deserving some mention and remarks are paralysis (lumbar), pneumonia, trypanosomiasis, and verminous cachexia.

Paralysis (lumbar region) was very common in Coomassie before the advent of the Veterinary Department, and was feared more than any of the other diseases affecting horses. There are several diseases which cause paralysis of the hindquarters, but what is the precise cause of this disease here I cannot state as I have not seen a case. The characteristic symptom is stated to be a paralysis of the loins, which comes on suddenly,

and death occurs in a few days. The mortality here is said to be 100 per cent. There were three of these cases treated during the year, two of which were shot, and the other case was sufficiently cured to walk away and be sold; it, however, had a relapse and died two months afterwards.

Pneumonia. It appears that during the third quarter of the year there was an epidemic of pneumonia. The veterinary dispenser reported that five horses in one month died from this disease, three in the military horse lines and two in the Hauza Zongo.

CATTLE TRADE—COOMASSIE.

The trade in cattle from the French Territory north of the Northern Territories shows an increase over the trade done last year. There has been a slight decrease in the trade from the Ivory Coast. The trade in cattle indigenous to the Northern Territories is still very small; a reference to Table III. shows that there were 491 not humped cattle imported during the year. These cattle came part from the Northern Territories and about half of them came from the Ivory Coast and Banda District of Ashanti.

Several Moors from the Sus country have been noticed to be importing cattle from the French Timbuctoo district. Buying has been keen throughout the year, several buyers have come from Eastern and Western Akim, and also from the Saltpond district.

The price of live cattle fluctuated from £3 10s. to £9 10s. depending on the season, and the number of cattle in the market. A record price of £9 10s. for a bullock was paid by a Greek butcher during the year.

Importation of Live Stock, Coomassie. The statistics kept show 63 horses imported during the year, but the number is believed to be something nearer 80.

In August, Millers Limited, Coomassie, imported four mules from the Canary Islands for their transport department. One of these was shot in September, the remaining three are still working. A Hausa mule was brought down from the Hausa country, and returned there with a load—it was a fine animal.

For the last three years it has not been usual for the kola traders to bring their donkeys as far as Coomassie; however, during this year several donkeys have come in.

There was one camel imported which lived for about five weeks. I regret to say he died at Mampon, having been ridden from Coomassie to Mampon a distance of 32 miles in one day.

The number of cattle imported for the year was 10,942 being an increase of 2,291 over the year 1911. During the year there has been a great improvement noticed in the condition of cattle on arrival here. In dealing with diseased cattle, *i.e.*, cattle suffering from extreme emaciation and in the advanced stages of disease, our old plan was to refuse admission; now we quarantine them. There were 21 cattle thus treated during the year and all died during the 24 hours period of detention. The greatest diplomacy is exercised when seizing these animals.

Table III. shows the number of cattle imported compared with the year 1911. They have been classed as humped and not humped. In the humped, or Zebu, two types have been noticed.

Type I.—known as Moshie cattle, is well known to the natives as a fast walker. The description of this type may be expressed as follows:—a leggy animal, with a long back, with poor sloping quarters; in consequence the tail is situated about a foot below the horizontal dorsal and lumbar vertebrae. The head is long and lean.

Type II.—comes from a district which is said to be about a month from the Moshie district. The headquarters of this type is said to be at Douentza. This type is a stumpy animal with a short back, wide quarters, and the tail is situated a few inches below the horizontal dorsal and lumbar vertebrae. The head is

short and broad. These arrive at Coomassie in better condition than the Moshie cattle. They are said to be very slow walkers.

The predominant shape of the horns in both types is the shape of the lyre. The colours are mixed with white predominating. It is rare to see a pure red, or a pure black, or a pure white; pure roans are fairly common. The comparative weights of the two types are not given as there is no weighing machine in Coomassie that can accommodate the weighing of live cattle.

There are no statistics kept by this department of the number of sheep and goats imported into Coomassie; the staff at present at its disposal cannot spare the time to do so, as these animals come in at all hours of the day, and also by several different roads. The number is believed to be decreasing that is, if any reliance can be placed on the statements of the butchers who complain of the scarcity of sheep and goats for killing, and also that the Ashantis are buying these animals on the route down. The Ashantis are keen buyers, and their transactions are for ready money; this gives them a preference over the Mahomedan butchers, who buy and kill before paying. It appears that these purchases are more for breeding purposes than for killing as they are driven out of Coomassie.

There were 6 male ostriches imported during the year. One of these died here, and three were exported by road to Obuassie. The remainder are kept in a compound about 14 feet square, and are fed on the tops of the sweet potato, and dusa, a native bran. These importations are to supply an itinerant trade in feathers. Coomassie is not a suitable place for the rearing or keeping of ostriches, but ostrich rearing might be carried on profitably in the Northern Territories, especially in the Volta region. The price of an ostrich is about £3.

Exportation of Cattle, etc., from Coomassie. There was a great decrease in the number of cattle exported by railway to stations down the line. This decrease is attributed to the closing down of several mines and to the great reduction of staff at others.

Since the date when the rules governing this exportation came into force, on the 1st August (published in *Gazette* No. 22/1912) we have passed 1,137 head of cattle for exportation by railway and have rejected three head. The total number of cattle inspected for exportation was 1,510.

During the five months that these regulations have been in force we have passed 373 head of cattle for road exportation.

The trade in cattle by road exportation has greatly increased. It is to be regretted that all cattle exported in this way are not inspected, but we have not a large enough staff to carry out or strictly enforce the above regulations; however, we do insist on all cattle which are intended for the mines being presented to us before 10 a.m.

Several complaints were made to this office during the year concerning the irregular arrival of cattle trucks. It is a pity the railway department do not keep the cattle trucks at this end of the line. Cattle dealers and butchers cannot afford to keep cattle hung up here where there is a scarcity of good grazing.

The total number of sheep and goats passed for exportation by railway was 275.

Slaughter-house, Coomassie. The slaughter-house is under the control of the Medical Department. The veterinary dispenser paid 60 visits for the collection of specimens; the helminths found were the usual ones.

Hide, Skin, and Trade. The trade in hides from Coomassie during the year shows a great increase over the export of last year. There has been a boom in the English hide market which has naturally affected countries exporting hides. Owing to this activity in England the local price of sun dried hides advanced from 5½d. per lb. to 9d. per lb.

Last year the trade was practically in the hands of the Mahommedan community, but this year several of the cocoa and rubber brokers have also taken up this class of trade.

Three complaints were made to this department by merchant firms of the "doping" of hides. As these hides are bought by weight the sellers have turned their attention as to how they could increase the weight, and have done so by hanging them up and pouring water over them until they were saturated and then placing them in the mid-day sun to dry. This only renders the hide surface dry, and complete evaporation has not taken place and in consequence the hide is heavier than one dried in the ordinary way by slow process where complete evaporation has taken place. When a hide of this kind comes into the hands of the merchant it is stored away, waiting for shipment, and not being properly dried putrefactive changes take place in the hide. In the tanning process these blemishes come out and can be noticed.

The number of hides exported from Coomassie for the year was 20,370, as against 8,500 for the year 1911. Taking the average sun dried hide as weighing 12 lb., and at its present price, *i.e.*, 9d. per lb., this represents a local trade of £9,166.

Sheep and Goat Skins. According to the returns sent into this department there is a commencing trade in sheep and goat skins. These might be used in the manufacture of chrome leather and its imitations. The number exported from Coomassie during the year was 988.

Bone Trade. No available information is at hand whether any bones have been exported during the year. But during the last quarter one consignment of several sacks of horns was exported. The result of this experiment is as yet not known.

[Notes on inspection of stud of horses and mules at Accra used in transport work, and of cattle in the Accra district, are given].

CONTAGIOUS AND INFECTIOUS DISEASES.

Anthrax. During the year there were three sporadic cases of anthrax at Coomassie.

Contagious Bovine Pleuro-Pneumonia. No epidemic of this disease as occurring in the Colony was reported to this department during the year. But we saw twenty-five lungs affected with pleuro-pneumonia in the Coomassie slaughter-house in the imported cattle. From information gathered from cattle traders it appears that this disease is gradually dying out in the French Moshie district, but is spreading to the cattle of the Coryanza district north of the Moshie territory.

Filariasis. Two cases of filarial infection were diagnosed in horses. One case at Coomassie and the other at Accra. Both specimens when stained appeared to be of the same species.

Piroplasmosis. Three blood smears prepared by the veterinary dispenser from cattle under suspicion and quarantined in our isolation pound show classical *P. bigeminum*.

Infectious Pneumo-Enteritis of Sheep or Pasteurellosis Ovis. During the month of August there was a serious epidemic of this disease among sheep and goats in the village of Christiansborg. On the 8th September I visited this village and found one dead sheep and four dead goats and post-mortemed one sheep and one goat. I examined all the sheep and goats in the village and detected four sick, two of which were killed, and the remaining two were isolated for the purpose of observation, one of which died the same night and the other on the 10th September.

Four post-mortems were made and the lesions observed were the same in all. There was pneumonia and enteritis, the heart showed petechiæ, and there were

numerous petechiæ on the peritoneum covering the bowel and abdominal cavity, the mesenteric glands were swollen and hæmorrhagic, the livers showed fatty degeneration. The spleen was normal in size but the pulp was soft and easily broken.

Bacteriological Examination. Blood smears were prepared from the peripheral veins, heart, lungs, liver and spleen, and smears were made from the scraping of the mucous membrane of the bowel. The smears were stained with methylene blue, fuchsin, and giemsa. The organism found was a bacillus of the fowl cholera type which is always found in these so-called hæmorrhagic septicæmias. The smears prepared from two of the animals which were found dead were contaminated with the bacillus of malignant œdema.

The number of deaths reported during this epidemic was forty-four. One owner losing the whole of his flock of twenty-five sheep and goats.

Tetanus. One case of tetanus was observed in Accra in a newly imported Spanish mule; it was a case of infection of acne sores, by allowing this mule to roll on the ground.

Trypanosomiasis at Accra. During the year there was an epidemic of this disease among horses and mules at Accra. The history of the epidemic was furnished me by Dr. O'Brien, Medical Officer of Health, and is as follows:—During the month of May two mules belonging to the Accra Town Council were sick. Trypanosomiasis was not suspected until a report was received that there was a sick horse at the Victoria Hotel. Dr. O'Brien examined the blood of this horse, which showed a heavy infection of trypanosomes. Following on this he examined the blood of all the Town Council's mules and found four mules infected with trypanosomes. The above is the history of the true epidemic. But at the end of the month of May eleven horses were brought into Accra by the retinue of the late Governor. These horses were bought in the Northern Territories and had travelled through Ashanti along the banks of the River Volta, where they became infected. Ten of these horses died or were shot during the month of June.

Between July 30th and September 9th, I examined the blood of 83 horses and mules at Accra, the results were furnished in an Appendix to Quarterly Progress No. 10, and showed that I had found four horses and one mule infected.

The problem to be solved is, what was the source of infection for the four mules and one horse that Dr. O'Brien found infected, and the three horses and one mule I found infected (the mule was one of the mules of the Town Council).

A reference to the records of blood examination of cattle killed at the Accra slaughterhouse shows trypanosome infection existing among cattle there from the commencement of the year 1911. These cattle are derived from a herd kept by Hausamen and are replenished by breeding locally, and from the Addah district, with an occasional importation from the Northern Territories, French Soudan, and Togoland. Therefore this herd must be viewed as a reservoir for spreading trypanosomiasis.

The question now comes, how was the disease spread to the horses and mules concerned in the true epidemic. Authorities have found and all agree that the tsetse fly (*i.e.* Glossina) when infected can convey the disease to healthy animals through their bites. Before the advent of the railway, Accra was considered free from tsetse flies for a radius of four miles, but during the year tsetse flies have been caught within the neighbourhood of the railway station and the laboratory. During the six weeks I was working there I only saw one tsetse fly, which was caught, and identified by Dr. Donnal as a specimen of *G. morsitans*; however, these flies cannot be said to be common in the locality, in fact might be

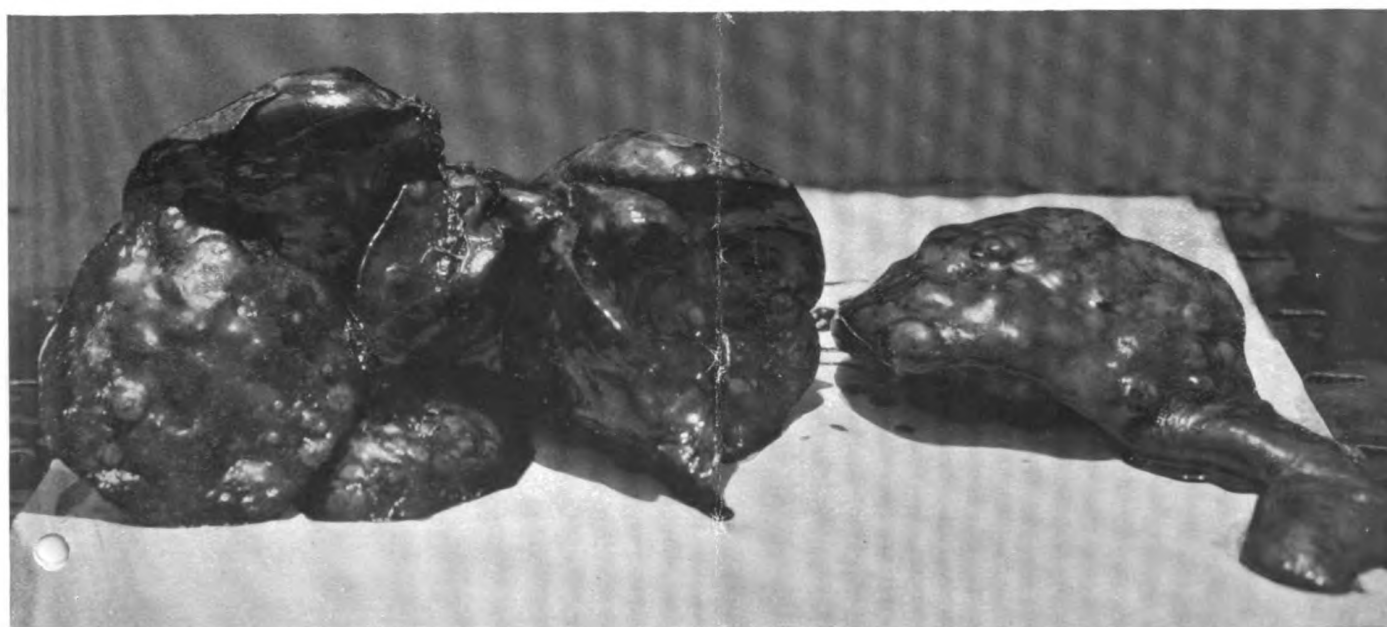


Photo. by R. J. Sturdy, C.V.O.

SARCOMA OF LIVER AND SPLEEN IN DOG.

Illustrating note by W. W. HENDERSON, M.R.C.V.S., D.V.S.M.

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considered a rarity. On searching for other blood sucking flies which are viewed as suspicious in the mechanical transmission of trypanosomiasis, I came across two species of *Stomoxys* and one species of *Lyperosia*, these flies were very common, especially among the cattle, and they will always maintain an endemic form of trypanosomiasis among the local herd.

The evidence collected by myself re three of the horses infected, is interesting. Two of the horses belong to Hausa cattle owners; these Hausamen take no care of their horses and frequently ride them among the cattle, and it is most probable that they were bitten, and always will be bitten by infected flies which have flown off after a meal off infected cattle. The horse that Dr. O'Brien found infected at the Victoria Hotel originally belonged to a Hausaman, who gave it to the owner of the Victoria Hotel, this horse was in a dying condition when the exchange of ownership took place. The distance between the Victoria Hotel, where this horse was stabled, to the stables of the Town Council is about 30 yards, no great distance for infected stomoxys to fly, and it is most probable that this is what did occur, and that this horse was the reservoir for infecting the Town Council's four mules. The fourth horse is a horse belonging to a European, and was stabled behind his bungalow, around which stable I saw cattle grazing frequently, and here again it is most probable that this horse was bitten by infected stomoxys.

The species of trypanosome concerned in the true epidemic showed a marked morphological resemblance to *T. cazalbouli*.

Experimental Work. On the 20th of August I inoculated four healthy animals with virulent blood from Kotey's bay pony No. 1. This pony is the sole survivor of the batch of 11 horses imported into Accra by the retinue of the late Governor. The result of my experiments were as follows:—

- (a) Goat, grey female, well nourished, in kid about 11 months old. Injected intraperitoneal 2.5 c.c. blood. Trypanosomes first seen on 29th August. The goat aborted on 7th September, examination of the foetus proved negative. The goat died on 2nd October, she lived 43 days after the date of inoculation.
- (b) Dog, white male, well nourished, about six months old. Injected intraperitoneal 2 c.c. blood. Trypanosomes first seen on 2nd September. The dog died on 27th September, he lived 35 days after the date of inoculation.
- (c) Guinea-pig, black, well nourished. Injected intraperitoneal 1 c.c. blood. Trypanosomes first seen on 2nd September, and died on the 7th. This guinea-pig lived 17 days after the date of inoculation.
- (d) Guinea-pig, white, well nourished. Injected subcutaneous 1.5 c.c. blood. Trypanosomes first seen on the 7th September and died on the 9th. This guinea-pig lived 19 days after the date of inoculation.

Morphology. The morphological characters of the majority of the trypanosomes seen in the smears prepared from this horse was a small trypanosome, its posterior end being in the shape of a pike head, a vacuole situated close to the centrosoma, a feebly developed undulating membrane without a free flagellum, the nucleus was placed centrally and was oval in shape. In the blood smears prepared from the experimental animals (a) and (b) the undulating membrane was well developed showing on an average $1\frac{1}{2}$ folds, and without a free flagellum. The majority of the trypanosomes from (a) i.e. the goat showed vacuoles, whereas in the dog and the two guinea-pigs no vacuoles were seen. The posterior end varied in shape.

The conclusion to be derived from these experiments is that the species of trypanosome infecting this horse is either *T. congolense* or *T. pecorum*.

TRYPANOSOMIASIS, COOMASSIE.

At Coomassie in treating these cases in horses we have had considerable success. Reference to the clinical statistics shows that twenty-eight horses were treated for this disease, out of which eight died. Of these deaths four occurred among the horses of the Hausa Zongo. The treatment laid down for the year was the combination method of treatment of atoxyl and orpiment. The procedure adopted was an injection subcutaneously of atoxyl 60-75 grains, depending on the size of the horse, on two consecutive days, followed by an interval of one day with no treatment, and then by the administration of orpiment 60 grains, given in a drench for three consecutive days.

This treatment is carried on for a month, but during the latter days of treatment the horse must be carefully watched for toxic symptoms of arsenic. To avoid this it has been our practice during the third and fourth weeks to carry out the treatment on a full stomach—the horse is fed with corn one hour before treatment. During this period the temperature must be taken morning and evening and registered on a chart, as the temperature chart is the guide for further treatment. After the first week of this treatment it is useless to examine the blood for trypanosomes as they are generally not to be found in the blood taken from the peripheral circulation. Our experience in acute cases is that, when a horse is handed over to us for treatment the temperature may be anything from 103°F.—106°F. During the first month's treatment the temperature gradually comes down to about 100°F. in the morning, and 101°F. in the evening. In chronic cases the temperature is generally about 102°F., and at the end of the month's treatment the morning temperature is about 99°F. and the evening temperature about 101°F. Our second month's treatment generally consists in dropping the orpiment, and in its place treating any symptoms that appear, as example, if the horse is anæmic he is given iron and strychnine, if he has worms he is treated for worms, if he is inclined to be "liverish" he is treated for liver trouble.

The third month's treatment consists in the treatment of a convalescent patient by tenios and gentle exercise; if at the end of this month the temperature has been normal for about twenty-one days, the case may be discharged and put into hard work.

A liberal diet of corn must be given and it should be spread over into five feeds daily; should a horse absolutely refuse to eat its corn it must be fed with any of the following: eggs and milk, stout, Ghari (i.e. native flour and water), boiled sugar cane, boiled artichokes, boiled beans. As previously mentioned, diet and condition are some of the principal factors in the treatment of this disease. Unless a horse is in good condition it will not be able to stand the arsenical treatment.

Prophylactic Measures. As was shown in last year's report, the administration of some arsenical preparations in a tsetse fly district was of some use as a preventative against this disease. During the year we recommended a cheaper form of arsenical preparation than osudan, namely arsenic alb (white arsenic). Grains, 2-3 to be given daily when trekking through fly country.

HELMINTHIASIS.

During the last three years we have treated numerous cases of worms in horses. In the cases where worms have been found in the dung and have been treated successfully, these patients have been returned in our "Clinical Statistics" as cases of entozoa, whereas on the other hand when treated not successfully they have been returned as cases of verminous cachexia.

Verminous Cachexia. This disease comes on towards the end of the rainy season, and is liable to be

mistaken for trypanosomiasis. But frequent blood examination of the patients' blood reveals no trypanosomes. The blood does show a picture of anæmia due to the infestation of the stomach and intestines with both blood sucking and non-blood sucking helminths which are always seen in the subsequent post-mortem of these cases.

In our dispensary at Coomassie we have a good assortment of worm medicines, including arsenic, antimony, mercury, creosote, male-fern, thymol, turpentine, aloes, and linseed oil, none of which seem to be beneficial in these cases.

The post-mortem is remarkable for the fact that although the horse has been treated with worm medicines for about three weeks, and has passed hundreds

of worms in the interim, yet countless numbers of worms are discovered in the post-mortem.

This disease, in my opinion, is caused by feeding horses on grass that has not been properly sun-dried, which is frequently the case during the rainy season. The remedy which suggests itself is to make hay, thus rendering the ovas of the different species of worms inactive. Several specimens of different species of worms were collected during the year and were presented to the Helminthological Laboratory of the London School of Tropical Medicine.

W. P. B. BEAL, Veterinary Officer.

The Honourable the Principal Medical Officer,
Accra.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.		Out-breaks	Slaugh-tered. *
	(a)		(a)		(b)		(b)			(a)	
IRELAND. Week ended May 30	...	...	1	11	...	...	2	...	5	2	8
Corresponding Week in {	1913 ...	...	...	...	...	...	4	...	4	7	41
	1912 ...	...	...	...	...	...	2	...	2	10	30
	1911 ...	...	1	...	...	...	...	...	3	...	12
Total for 22 weeks, 1914	...	1	1	74	944	...	45	...	336	104	513
Corresponding period in {	1913 ...	...	...	...	...	...	87	...	288	72	436
	1912 ...	2	2	...	...	...	33	...	251	121	1150
	1911 ...	5	6	...	...	1	38	2	239	49	828

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, June 3, 1914
 Note.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

VICTORIA VETERINARY BENEVOLENT FUND.

The Annual General Meeting was held at 10 Red Lion Square, London, W.C., on Wednesday, June 3rd. At a well attended meeting there were present:—Sir John M'Fadyean, Sir Stewart Stockman, Messrs. H. A. MacCormack, S. H. Slocock, F. W. Garnett, S. Villar, G. A. Banham, W. J. Mulvey, J. Ward, A. Spicer, T. S. Price, J. Abson, Capt. Rees-Mogg, Professor N. Almond, G. Thatcher, William Shipley, and others.

In the unavoidable absence of the President (R. C. Trigger) Sir John M'Fadyean was unanimously requested to take the chair.

The minutes of the previous meeting were read and confirmed.

The annual report, which had been printed and circulated [see p. 789, our issue of June 6] was received and adopted.

Messrs. A. Spicer, H. Sumner, Sir Stewart Stockman, R. C. Trigger, S. Villar, and S. Wharam, who had been nominated for Council of the Fund, were declared elected.

It was proposed by Mr. Villar, seconded by Mr. Banham, and carried unanimously, that Mr. P. J. Howard be elected to the other vacancy on the Council, to fulfil the expressed wish of a further Irish representative.

It was proposed by Mr. Banham, seconded by Mr. Slocock, that the Auditors—Messrs. Woodger and Lark, be re-elected; this was duly carried.

It was unanimously adopted, on the proposition of Sir John M'Fadyean, that a hearty vote of thanks be

given to the auditors for the great trouble and care they had taken with the accounts.

On the proposition of Mr. Gooch, seconded by Prof. N. Almond, and supported by the Chairman and other members, a hearty vote of thanks was recorded to the Hon. Sec. and Treasurer.

Alleged Negligence—Verdict for the Veterinary Surgeon.

At Hull County Court on Friday, June 5th, before Judge Fossett Lock and a special jury, Thomas Hill, mineral water manufacturer, of Hull, sued Frank Bradley, of 20, Charlotte Street, Hull, veterinary surgeon, for £99 6s. 6d., as damages for alleged negligence as his veterinary surgeon in respect of a bay hunting mare purchased by plaintiff on December 10th, 1913.

Mr. J. H. Payne appeared for the plaintiff, and Mr. Harry Wray represented the defendant.

The plaintiff alleged that the defendant on December 10th last, after an examination of the mare, negligently advised the plaintiff that the animal was sound, and was not suffering from corns, in consequence of which plaintiff purchased the animal for £130, whereas the animal had splints on both forelegs, corns on both forefeet, and spavins on both hocks, and was unsound. The particulars of claim set forth the price paid for the mare by plaintiff, £130; nine weeks' keep of the mare, £9; less net amount realised by sale of the mare by public auction, £39 13s. 6d.; leaving as the amount of the claim £99 6s. 6d.

The evidence for the defence was continued, and several witnesses were called to the effect that the mare was not constitutionally lame.

Frank Topham, blacksmith, of Coniston, deposed that he had shod the mare and never saw any indications of corns.

Albert Roe, who for 14 years had been groom to Mr. Richardson, farmer, of Wyton, said that he remembered the horse being foaled. The horse was not constitutionally lame.

George Robert Simpson, a member of the Royal College of Veterinary Surgeons, practising in George Street, Great Driffield, deposed that on Tuesday, January 13th last, he visited the premises of the plaintiff, together with Mr. Bradley, for the purpose of making an inspection. The inspection was fixed for the 16th, and witness attended on that day with Mr. Bradley. Mr. Sowerby was also present. Witness was told that the horse was alleged to be wrong in the wind and had got spavins and splints. The mare was saddled and taken to a field and galloped for about a mile, but witness found no evidence that she was wrong in the wind. The mare did not grunt. In the opinion of witness, there were no spavins. The mare had good hocks. There were no curves. There was a little splint on each leg. The mare was not lame. On April 8th he saw the mare again, and some corns had been cut out previously, and had, in his opinion, been cut out about a week.

Lieut.-Col. Longhurst, F.R.C.V.S., veterinary surgeon, gave evidence that he examined the mare and found a slight corn under the heel on each foot. The animal was a little lame. There were small splints on the fore-legs. A vein on the near hock was a little larger than the corresponding one, but there was not any unsoundness. The hocks of the animal were sound.

The jury found for the defendant with costs. They found that there was no negligence on the part of the defendant in certifying that the horse was sound on December 10th last. The jury did not find from the evidence that there was any unsoundness in the horse on December 10th.—*The Hull Times*.

A Tuberculous Cow—Conviction for Failure to Notify.

The first prosecution in Surrey under the Tuberculosis Order of 1913 took place on Saturday, at the Kingston-on-Thames County Police Court, when Owen Older, a dairy farmer, of West Molesey, was summoned for having in his care a cow suffering from tuberculosis with emaciation, and failing to give information to the police or to an inspector of the local authority, as required by the Tuberculosis Order of 1913. He pleaded "not guilty."

Mr. C. G. Sherwood appeared for the defence.

P.S. Parish said that on Tuesday, May 12, he went to a meadow known as America, adjoining Field Common, Walton, and saw an aged red cow, the property of the defendant, in a very emaciated condition, coughing frequently but feebly, and suffering very much from diarrhoea. Witness reported the facts, and the same afternoon saw Mr. Owen Older and told him that he was dealing with it as a suspected case of tuberculosis. Defendant said, "I have had two veterinaries to see it, and they said it was suffering from John's disease." On May 25 witness served a summons on him for failing to notify the case, and he said, "Very well, thank you, I thought it was John's disease."

Cross-examined, witness said the defendant might have said that he was carrying out the treatment recommended by the veterinary surgeons.

Mr. W. Caudwell, F.R.C.V.S., an inspector of the Surrey County Council for the Chertsey and Hersham Police Divisions, said he received a telephone message

from the last witness, and accompanied him to the meadow, where he found an aged shorthorn cow in milk and in a very emaciated condition. Witness made a full examination of the cow, and found crepitation in both lungs and disease of the udder. Witness formed the opinion that it was suffering from an advanced condition of tuberculosis, and its condition was such as to have suggested to anyone familiar with cattle the existence of tuberculosis. Witness at once sent notice of slaughter, and afterwards made a post-mortem examination at which the defendant had the opportunity of being represented, but did not avail himself of it. Witness found that the animal had suffered from miliary tuberculosis of both lungs, and of long standing. There was also tuberculosis of the glands and intestines, and disease of the udder which was not of a tuberculous character. He had received no notice of the case from the defendant.

Cross-examined by Mr. Sherwood, witness said that in his opinion any veterinary surgeon who examined the cow must have known that it was suffering from tuberculosis, and it was his duty equally with the defendants to have reported the case.

Mr. Sherwood, for the defence, said his clients were dairy farmers in a large way of business and owning a great number of cows. At the end of January this cow was seized with illness, and Mr. Older called in his veterinary surgeon, who prescribed for it, and said it was suffering from John's disease. Defendant could not do more than carry out the advice of the veterinary, and he isolated the cow in a meadow where there was a good feed of grass, and gave it also hard food. Defendant would have had the cow destroyed at once if he had suspected that it was suffering from tuberculosis, but he had not the slightest idea that it was suffering from that disease.

Defendant Owen Older was sworn, and gave evidence bearing out his solicitor's statement.

In answer to Superintendent Marshall, defendant admitted that from the end of January to May 12th no veterinary surgeon had seen the animal.

Mr. J. W. Whitecross, veterinary surgeon, said he examined the defendant's herd on the previous day, and thought it was one of the finest in Surrey.

Mr. T. S. Payne, veterinary surgeon, of Hersham, said he was called in by the defendant on January 4th to see the cow, which was suffering from diarrhoea, and he prescribed for it. Since January 9th he had not seen or heard anything of the animal. He only examined it casually, and saw no evidences of tuberculosis. There had been ample time since for the development of tuberculosis.

The Bench decided to convict, and the defendant was fined £5 and £1 14s. 6d. costs.

Cruelty Charge Dismissed—Costs Allowed

Mrs. Anne Cheesman, fruiterer, 42 East Street, Epsom was summoned for working a horse in an unfit state.

Inspector White, R.S.P.C.A., stated that as the horse appeared lame in the near fore leg he stopped defendant, who was driving it, and she said that the animal knocked one of its knees a few days previously. Witness examined the horse and found that the lameness was slight and of a temporary nature. Underneath the saddle, however, was a large wound, apparently an abscess, and when witness touched it the horse went down on its knees in acute pain. When he asked defendant why she was working the horse in such a condition she said, "It's had a bad back, but we thought we would cure it."

Alexander Piesse, veterinary surgeon, stated that when he went to put his hand on the horse's back it cringed,

but he was told that this was its habit. There was a swelling on the back.

Defendant stated that the horse was very nervous as the result of a fire, and always flinched whenever anyone touched it. It knew her, and she could harness it without any trouble.

Mr. Talbot, veterinary surgeon, corroborated defendant's story as to the animal's nervous condition, and stated that it was so nervous that a stranger probably would not be able to harness it.

The Magistrates viewed the horse, and on returning the Chairman remarked that everyone was liable to make mistakes. In this case there was nothing the matter with the horse as far as they could see, and they dismissed the case.

Defendant asked for costs. She had had to hire a horse and bring the veterinary surgeon there that day.

The Magistrates allowed costs, £1 13s which the Society would have to pay.—*Mitcham Advertiser*.

Sale of a Shorthorn—Tuberculin Test.

In the King's Bench Division, on Wednesday, May 27, before Mr. Justice Rowlatt, Mr. James Charles Lewis, Duncote Hall, Towcester, Whittlebury, Northamptonshire, sued Lord Burnham for 115 guineas, the price of a shorthorn cow, which was sold by plaintiff to Mr. Richard Spencer Britten, as agent for Lord Burnham, on Oct 24 last.

Defendant refused payment on the ground that the cow had failed to pass the tuberculin test. Plaintiff, on the other hand, maintained that the condition of sale that the cow should pass the tuberculin test was subject to that test being made before the animal was taken away from Whittlebury.

Mr. Spencer Bower, K.C., and Mr. Grimwood Mears (instructed by Mr. Bertram Sturt) were for the plaintiff, and Mr. Pollock, K.C., and Mr. G. M. Hilbery (instructed by Messrs. Henry Hilbery and Son) represented the defendant.

Opening plaintiff's case, Mr. Bower said that the cow in question, "Duchess of Bartlow IX," in the catalogue which appeared as "Lot 21"—(Laughter)—was sold by auction by Mr. Webb, of Messrs. John Thornton and Co. on Friday, Oct. 24. and on Monday, Oct. 27, the animal was delivered to defendant. About Dec. 12 defendant purported to reject the cow, which plaintiff refused to take back. Defendant set up that there was a condition that where a purchase was effected at over 80 guineas the animal should pass the tuberculin test. This meant, according to defendant, that he would have the right, without giving notice to plaintiff, to have at his own place at any time and by any person, any tuberculin test, and if the cow failed to pass the test he could reject the animal. Plaintiff admitted that there was a condition that anybody who purchased any of the animals on the day of the sale should have the option of a tuberculin test, provided he made arrangements for that purpose and got the test applied at the farm before the animal was removed. If that was the condition, defendant had not complied with it, because Mr. Britten gave an unconditional order for delivery on the Monday, pursuant to which the cow had been delivered. A month after the sale defendant made up his mind to reject, having had that horrible mass of tuberculosis—

Mr. Justice Rowlatt: Don't harrow us. (Laughter.)

Mr. Bower added that there was a counter-claim for the keep of the cow. He wanted to know what had been done with the milk.

Mr. Pollock replied that the milk had been run down the drain. The Burnham herd was rather a good one, and tuberculous milk would not be knowingly sold.

Mr. Justice Rowlatt: Might not you give it to the pigs?

Mr. Pollock: Then you would produce tuberculous pigs. (Laughter.)

Mr. Justice Rowlatt: I can't understand how any man or any animal is alive at this period of the world's history. (Laughter.)

Plaintiff said that as no test was made at his farm he assumed that Mr. Britten did not wish to have a test made.

Cross-examined by Mr. Pollock, plaintiff said that a good deal was heard from some people about tuberculosis in cattle, but he did not attach much importance to it. If the test had been made at his farm, and the cow had reacted, the sale would have been off.

Mr. Webb, senior partner of Messrs. John Thornton and Co., stated that he had written to Mr. Britten, offering to have the test made at Whittlebury, but he had no authority from plaintiff to do so.

Among other witnesses were three who made purchases, and who said that they heard the auctioneer mention that purchasers could have the tuberculin test, but that it must be made at plaintiff's farm.

Mr. William Bateman, one of these witnesses, expressed the opinion that in the North of England 70 per cent. of the dairy cattle would fail to pass the test, but he did not think that mattered very much. If they had to run down the drains all milk which failed to pass the test they would get on very poorly.

Mr. Justice Rowlatt: You will want a new and expensive drainage system. (Laughter.)

DEFENCE.

Mr. Pollock submitted that plaintiff had failed to make out a case. Here was a definite agreement made with plaintiff as to stock about eighty guineas before the sale began, and Mr. Britten would tell his lordship that no term was imposed that the test should be at Whittlebury as part of the condition, or that there was in any way any limitation. It was perfectly reasonable that the test should be at Whittlebury, and no doubt that was the place at which it ought to take place. Still, the test was to be a condition of the sale.

It was quite clear that defendant should have the test, and that, although it was reasonable that the test should take place at the farm, it was, by mistake, not held there, and when the cow reacted in the test there was no sale. Therefore defendant was not bound to take the cow at the price of 115 guineas or at all.

His Lordship remarked that that was not a great price for a cow.

Mr. Pollock said he had known a bull calf go to 700 guineas.

Mr. Bower suggested that it might be possible to cure a cow of tuberculosis.

His Lordship asked whether the cow should be sent to a health resort in the Alps for a cure. (Laughter.)

Mr. Pollock said that to imagine Lord Burnham was endeavouring to get out of the bargain merely for £10 was quite out of the question.

Mr. Justice Rowlatt: As a matter of fact, I think it is irrelevant.

Mr. Britten gave evidence in support of Mr. Pollock's statements. His conversation with Mr. Lewis took place before the luncheon in the cowhouse.

Mr. Justice Rowlatt: The conversation, not the luncheon, was in the cowhouse? (Laughter.)

Mr. Britten added that plaintiff said he would give the test for animals for which over 80gs. was paid. Witness did not take particular note of what the auctioneer said about the tests, because he (witness) had already made the arrangements with plaintiff. He was very particular about the test. After the cow arrived on the Monday afternoon he wrote a letter in which he said he presumed the animal had been tested, for otherwise she would not have arrived by that time. After the test had been made at Hall Barn by Mr.

Walker, veterinary surgeon, he did not think it would be a good thing to use the milk. The cow was not put with the herd, but was isolated.

Cross-examined by Mr. Bower, witness said he did not hear plaintiff say that the test was to be made at the farm, but he was not prepared to deny that plaintiff said that.

Mr. F. P. Matthews, a partner in the firm of Messrs. John Thornton and Co., who was present when Mr. Britten and plaintiff met, stated that he heard plaintiff say he would give a test for any animal bought for 80gs., but he did not hear words "at Whittlebury."

Mr. Manuel, veterinary surgeon, of Wolverhampton, said that on the instructions of the auctioneers he went to examine the cow, in addition to others, at Whittlebury, on the Monday, but the animal had been sent away before he went there. He was of opinion that the tuberculin test was a right test, and was very important.

Mr. Bower: Whether you can get tuberculosis through drinking milk is another question. You say it is conclusive in all cases?

Witness: It is not exactly invariable, but it is perfectly reliable.

Mr. Justice Rowlatt: The condition here was not for that fact, but for the test.

After hearing speeches by counsel, his lordship said he would give judgment next morning.

JUDGMENT.

Mr. Justice Rowlatt said he came quite clearly to the conclusion that the bargain was that there should be a tuberculin test if any animal was knocked down to Mr. Britten at over £80. Prima facie, his lordship could not see any ground for supposing that the test should be anywhere but at Whittlebury, and from the correspondence that prima facie view was corroborated. As soon as the question arose plaintiff and Mr. Webb (the auctioneer) took that position, and it was really never contested by Mr. Britten in the correspondence. Mr. Britten gave a delivery order which simply said: "Deliver this cow by rail on Monday," the sale having taken place on Friday. That did not bind him until it was acted upon. It certainly could not be said that the terms of the delivery order could be cut down by the terms of the sale note so as to make it read: "Deliver on Monday, provided there has been a test." Therefore it came into the hands of plaintiff's bailiff as a perfectly open delivery order, and the bailiff was bound to act upon it unless it was countermanded.

His lordship did not think that it was premature to send the cow on at nine o'clock in the morning, and he was sure the bailiff acted in perfectly good faith. The legal effect was that Mr. Britten did not waive his right to a test, but simply did not exercise his option, and therefore the contract became absolute. It was also said that it was plaintiff's fault that the cow was not tested before being sent off on the Monday. It seemed to his lordship that the testing was a matter entirely in defendant's hands, and that plaintiff had no initiative in the matter.

Clearly the auctioneer had no higher degree of authority than his principal to meddle with the matter and it was clear that he acted simply in a good-natured way to facilitate business when he wrote to Mr. Britten suggesting that the cow might be tested on the Monday by the veterinary surgeon who was to test other animals. Unfortunately the letter got to Mr. Britten late on Saturday night, and he took no steps.

The real truth was that Mr. Britten did not realise that the veterinary surgeon would not have got there on the Saturday—whether he ought to have realised it or not did not matter—and therefore that the terms of the delivery order would bring the cow before she had been tested. That was the unfortunate thing that had

happened. The trouble was due really to Mr. Britten himself, because he had given the delivery order and had not thought out the situation and taken steps to make sure that there was to be a test before the delivery order took effect. It was his affair to see to that, and unfortunately he jumbled it. In these circumstances plaintiff must recover.

Judgment was entered for plaintiff for 115gs. on the claim and on the counter-claim (for keep, etc., of the cow), with costs.—*Daily Telegraph*.

PARLIAMENTARY.

MILK AND DAIRIES BILL.

In the House of Commons on Tuesday, June 9.

Mr. HERBERT SAMUEL (Yorks, Cleveland) formally moved that this Bill be now read a second time, [See our issue May 16th, p. 750, and May 23rd, pp. 753, 767].

Mr. C. BATHURST (Wilts., Wilton,) supported the second reading. He said agriculturists did not welcome restrictive legislation, but they realised that it was inevitable in the face of public opinion. They desired, however, that producers should not be penalised in respect to offences after the milk had left their possession. He believed the dangers of dirty milk were minimised as much as those of tuberculous milk were exaggerated. During the summer months a large proportion of infantile mortality was due to the effect of dirty milk, but with regard to tuberculous milk he held that it had yet to be proved that bovine and human tuberculosis were identical or interchangeable. He recognised that the right hon. gentleman had endeavoured to treat the producer with as much fairness as was possible in the circumstances, and that the Bill compared favourably with all of its four predecessors. Apparently it was provided that medical or other officers of urban authorities, who were the authorities for the areas of consumption, were not to attempt to invade the areas of production. He hoped that in Committee amendments making this quite plain would be accepted. There was, he understood, to be no interference with the structure of cowsheds, and for this he thanked the Government, for nothing was more likely to reduce the production of milk or to increase its cost than interference with the premises in which cattle were housed. He suggested that the presence of the veterinary surgeon employed by the owner of the cattle should be permitted when animals were inspected by officers of the local authority. This would be only fair to the producer. He thought that the expenses of administering the Bill ought to be borne by the Exchequer, the service being in the nature of a national service as human health was involved, but he urged that in any case it should be made clear that half of the entire expense would be defrayed out of the Exchequer and that not more than half would fall on the local authorities. The Central Chamber of Agriculture, the British Dairy Farmers' Association, the Central Land Association, and other agricultural organisations were unanimous in asking the House to accept the second reading of the Bill and in hoping that it would not be drastically amended in Committee.

Dr. ADDISON (Hoxton), said that the Bill would introduce for the first time something like unanimity in administration. It would be administered by the officers of the larger authorities, who would be in the main well trained and experienced and would avoid placing harassing and futile restrictions on the milk producers. He associated himself with the suggestion that, in some form or other, there should be a system of certification of the quality of milk. The indirect effect of such a system would be vastly more important in improving the general quality of the milk supply than

the Bill itself, because, if the milk were graded as it was in New York, people would begin to inquire why grade A was different from grades B and C, and there would be created a public opinion in favour of clean milk.

Mr. FORSTER said that they would, he thought, make a great mistake if they were to divide against the second reading. This Bill would do something to check the sale of impure milk, but it would not make it cheaper or more plentiful, and he was not at all sure that it would not rather encourage the importation of foreign milk than the development of the home supply. With the development of preservatives, it was quite possible that the importation of foreign milk might grow to an extent that none of them would desire. He regretted that the Bill did not do something to assist the farmer to obtain immunity from disease in his cattle.

Mr. ASTOR (Plymouth): The first clause was entitled "The prohibition of the sale of tuberculous milk." It was difficult to make a calculation as to the amount of tuberculous milk in London, but it was something like 10 per cent. They could not afford to wipe out 10 per cent. of the milk supply of the country. He would like to see the clause amended so that there would be a regulation of the sale of contaminated, tuberculous, and dirty milk, and a gradual lifting up of the whole supply. Clause 1 had another danger. It said that a seller should not knowingly sell tuberculous milk. That opened an awful possibility of litigation.

It seemed to him the first step they wanted to make was to classify milk according to its quality, and then gradually to try to improve the quality of uncertified milk. The great advantages of certification, or grading, were that it established a standard of purity; the public knew what it bought. It was impossible suddenly to produce pure milk without diminishing the supply, but classification and certification would make it possible gradually to improve the supply without diminishing its quantity or raising the price. Grading had been tried on a voluntary basis in a large number of areas in this country. In his own constituency the local sanitary officer circulated periodically among the big consumers of milk a list of the dairy farmers and milk producers who submitted themselves to a special inspection, and the system worked satisfactorily without raising the price of milk.

He regretted that the President of the Local Government Board had not provided in the Bill for the licensing of milk sellers. The old system of registration of milk sellers was condemned without qualification by the Irish Milk Commission in their final report of 1911. The Commission pointed out that the local authorities had no power to refuse registration on the ground that the applicant's premises were unsuitable, and that procedure by prosecution in the case of offences was cumbersome, uncertain, and possibly ineffective. Only the other day the Carnarvon County Council prosecuted some milk sellers for selling dirty milk, and the fines of 10s. each imposed by the magistrate were set aside at quarter sessions on the ground that the offence was a technical one. The county council were thus put to the expense of £60 without result.

Mr. BARNSTON (Cheshire, Eddisbury): The right hon. gentleman had produced a Bill dealing with admittedly a very difficult and delicate subject on fair and sound lines, and if those lines were adhered to, he promised him a good deal of support from the Opposition side of the House.

Mr. STANIER (Shropshire, Newport) pressed for an assurance that the Bill would be strong enough to deal with the contamination of the London milk supply while the cans were being handled *en route*.

Mr. HILLS (Durham) appealed to the Government to codify all the existing Acts dealing with milk.

After further debate,

Mr. HERBERT SAMUEL thanked the House warmly for the reception given to the Bill. The methods in the Second Schedule for arriving at the really guilty person by tracing the milk back had been criticised, but those methods were now in force in Manchester and were a great success.

He agreed that it was essential so far as they could to maintain the cheapness of the milk supply, and this Bill would be a mischievous Bill if it had the effect of sending up the price and rendering less of it available to the poorer classes. He did not believe it would do so. The regulations they had in mind would not involve cost but care. Care and cleanliness need not be costly. He had not in mind expensive alterations to cowsheds all over the country—(cheers)—and other ideal measures. It had been urged that the county authorities should be given powers instead of the district authorities. It must, however, be borne in mind that there was already legislation dealing with this matter and under the Diseases of Animals Act it was the district councils which appointed the veterinary officers and inspected cattle. With regard to the expenses of local authorities, if the whole cost of paying the salaries of officers was thrown on the Exchequer they must necessarily become officers of a central Government Department. In the Finance Bill of this year it was proposed that half the salaries of public health officers should be paid out of public funds, and it was intended that that term should include veterinary officers. He recognised the force of the contention that it was desirable to codify the older Acts, but one had to consider Parliamentary exigencies. If, however, there was any general desire, he would be very glad after the passage of this Bill to introduce a new Bill of a codifying character without making any change of legislation, but bringing all legislation on the subject into one statute.

He was much disappointed by the speech of the hon. member for Plymouth. With his interest in public health he thought the hon. member would be more likely to complain that the Bill was too much watered down than that it was too stringent. He agreed with the hon. member that they must improve gradually. He would remind the hon. member that Clause 3 and the First Schedule were in substance the model milk clauses which now existed in a hundred local Acts of Parliament. The hundred boroughs which had obtained powers under those Acts would certainly not be prepared to give them up without some substitute for them. It would be impossible to carry through the House of Commons any Bill which swept away all these local statutory powers and substituted no similar law of a general character in their stead.

Nor was the proposal for licensing milk sellers likely to find favour in the House. Desirable as it would be in many ways, it would give rise to much Parliamentary opposition. He had little doubt that the milk traders—and they were powerful—would soon make their voice heard if any attempt were made to establish a licence system for the sale of milk, as there was for the sale of alcoholic liquor.

He did not, however, view with any spirit of hostility the hon. member's proposal for establishing a system of graded and certified milk and protecting the producers of certified milk from the competition of others who might seek wrongly to use the term "certified milk." All he said was that that was not a substitute for the proper regulation of the whole milk supply, though it might be a useful supplement. He was quite content to leave that to discussion in Committee, and if it appeared that the proposal to have regulations made for protecting those who chose to sell certified milk—not making it obligatory, of course—and for penalising those who wrongly claimed the title "certified milk" com-

mended itself to the Committee he would be quite ready to be guided by the opinion of the Committee.

Sir F. BANBURY criticised Clause 2, which, he said, would enable the President of the Local Government Board to make regulations which need not lie 40 days on the table of the House by calling them "Special Orders." He also asked what Clause 9, which allowed sanitary authorities to establish and maintain depôts for sale of milk for infants, had to do with the provision of pure milk. That was a matter of municipal trading. As nothing was said about price, local authorities might be induced to sell milk considerably under cost price. In that case, what was to become of the trader?

The Bill was read a second time.

MILK AND DAIRIES (SCOTLAND) BILL.

On the motion for the second reading of this Bill, Captain GILMOUR (Renfrewshire, E.) on behalf of Scottish agriculturists, welcomed the Bill, but intimated that there were various points upon which amendments would be suggested.

Mr. MCKINNON WOOD (Glasgow, St. Rollox) stated that the Bill was the result of conferences with the Chambers of Agriculture in Scotland and others interested in agriculture, and was to a large extent an agreed Bill. At the same time he promised to give to Committee points sympathetic and open-minded consideration.

The Bill was then read a second time.—*The Times*.

THANKS TO ELECTORS.

*To the Fellows and Members of the
Royal College of Veterinary Surgeons.*

Gentlemen,

I beg to tender my most sincere thanks to those gentlemen who supported me at the recent election of Councilmen of the Royal College of Veterinary Surgeons.

I shall welcome any suggestions which have for their object the advancement of our profession from any of the Fellows and Members and they may rely upon my giving them full consideration with a view of bringing the same before the Council.—I have the honour to be, gentlemen, your obedient servant,

J. CHARLES COLEMAN.

Swindon, Wilts. June 6.

Dear Sir,

Allow me, through your columns, to thank those gentlemen who have so generously accorded me their support at my four elections to the Council. I am particularly grateful because I have never sought the support of any Society, but have trusted solely to the individual members of my profession to vote for an absolutely independent and unbiassed candidate to that august body.—I am, gentlemen, your obedient servant,

GEO. A. BANHAM.

Dear Sir,

Please permit me through your columns to return my very sincere thanks to all those who so kindly voted for me at the recent Council election. I only hope I may prove worthy of their confidence.—Yours faithfully,

P. J. HOWARD.

Ennis. June 8.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, June 5.

REGULAR FORCES. ARMY VETERINARY CORPS.

Capt. E. Brown to be Major. Dated June 2.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

W. G. Thompson to be Lieut. Dated May 18.

His Majesty the King held a Levée at St. James Palace, on Wednesday, June 10. The following Noblemen and Gentlemen attended:—

* * *

Vet.-Major W. A. Pallin.

Lieut. J. Scott Bowden, Welsh Division T.F., has passed for promotion to Captain in subjects B 2, 3, 16 Territorial Force Regulations.

OBITUARY

Dr. J. R. Green.

We regret to announce the death of Dr. Joseph Reynolds Green, Fellow and Lecturer of Downing College, who passed away on Wednesday, June 3rd, in his 66th year. His sister, with whom he had lived for many years, died about a fortnight ago.

Dr. Joseph Reynolds Green was the son of Mr. Daniel Green, of Bedford, and a brother of Mr. George Green. He was born in 1848 at Stowmarket, Suffolk. After a private education, he entered Trinity College in 1881, and graduated in the First Class National Science Tripos, Part II. (in Botany and Physiology) in 1884. He took his M.A. in 1888, and his Sc.D. in 1894, and was elected a Scholar of his College. He held the post of Senior Demonstrator of Physiology in the University from 1885 to 1887. In 1890 he was the Rolleston Prizeman (Oxford). Dr. Green was elected Fellow of Downing College in 1902, and in the same year he became President of the Botany Section of the British Association. From 1887 to 1907 he was the Professor of Botany for the Pharmaceutical Society of Great Britain. He also held the post of Hartley Lecturer in Vegetable Physiology in the University of Liverpool. He was a Fellow of the Royal Society. Dr. Green was the author of several books on botany and vegetable physiology.

Dr. Green always took a keen interest in religious and social work in Cambridge, and was for many years a deacon of Emmanuel Congregational Church. Though he never took an active part in politics, he was a consistent Liberal. He was a well-known Mason, and had held many offices.

Many prominent residents and members of the University attended the funeral service at Emmanuel Congregational Church, on Saturday afternoon.

The interment afterwards took place in Trumpington Churchyard.—*Cambridge Daily News*.

[Dr. J. R. Green, M.A., F.L.S., D.Sc., acted as an examiner for the Diploma of Membership R.C.V.S., 1893—1906. He will be remembered by many who were then students].

Mr. P. F. F. TAYLOR, V.S., Urmston, Manchester, died on May 21st from acute pneumonia. Aged 62 years.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.			Anthrax.		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
			Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.		Out-breaks	Slaughtered.*
			(a)		(a)		(b)		(b)		(b)	(a)	
Gr. BRITAIN.													
Week ended June 6			9	9			2	2	31	56	1	118	1223
Corresponding week in	{	1913 ...	11	11			5	7	31	57		60	830
		1912 ...	11	11			4	6	34	84	1	83	1249
		1911 ...	9	12			5	9			2	65	824
Total for 23 weeks, 1914 ...			401	427	11	74	42	88	1299	2336	145	1888	19149
Corresponding period in	{	1913 ...	293	315			79	226	1533	3139	129	1051	15323
		1912 ...	465	519			77	159	1993	4444	162	1570	19980
		1911 ...	431	527	1	18	96	257			302	1140	12380

(a) Confirmed. (b) Reported by Local Authorities.
Board of Agriculture and Fisheries, June 9, 1914

† Counties affected, animals attacked: London 2.

IRELAND.											
Week ended June 6	...	...	1	9	...	...	Outbreaks	1	1	3	35
Corresponding Week in	1913 ...	...	...	...	...	...	1	3	3	19	
	1912 ...	...	...	...	...	...	...	1	3	25	
	1911 ...	...	...	...	1	1	2	1	2	3	
Total for 23 weeks, 1914	...	1	1	75	956	...	46	337	107	552	
Corresponding period in	1913 ...	...	...	...	...	...	88	291	75	455	
	1912 ...	2	2	...	...	...	39	252	124	1175	
	1911 ...	5	6	...	...	2	40	240	51	831	

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, June 8, 1914
NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

CORRESPONDENCE.

COLONIAL APPOINTMENTS.

Sir,

The very pertinent letter signed "East of Suez," which appeared in your issue of the 28th of February last was read with great interest by many members of the profession in the various Colonial services.

The inadequacy of the supply of suitable candidates for civil veterinary appointments at home, in the Colonies and India is no doubt partly due to the reduction in the numbers of young men now entering the various Colleges and completing the course as compared with fifteen or twenty years ago, but the dearth of candidates for some Colonial appointments is largely due to the position occupied by the veterinary service which "East of Suez" rightly describes as "an off-shoot of another Department." In this connection I enclose the minutes of a meeting of veterinary surgeons held in Bulawayo in April last. A copy of the same was forwarded for the consideration of the Council of the Royal College of Veterinary Surgeons, and the Secretary replied that the matter had received the attention of the Parliamentary Committee and he was instructed to state that "as the Departmental Committee on the Public Veterinary Services had already completed their report, the Committee felt that they could not profitably take any action on the resolution." I am not aware of the composition of the Committee referred to (the Public Veterinary Services Committee), nor have I seen the terms of reference on the subject, but it seems somewhat strange that in regard to the Colonial Veterinary Services more extended enquiries were not made amongst members who have spent

the whole of their professional lives in the Colonies. No doubt the Committee did make some such enquiry, but as far as I know not a single member of the profession in Southern or Central Africa was consulted or afforded an opportunity of expressing his views.

As there will probably be a large number of Colonial veterinary surgeons at home for the International Veterinary Congress, I venture to suggest that a conference be held, and the matter of Colonial appointments, conditions of service, etc., be considered.—Yours truly,

J. M. SINCLAIR, M.R.C.V.S.

Salisbury, S. Rhodesia. May 18.

Sir,

I see an advertisement in May 9th issue, where the Colonial Office is hard put to it for professional men. It may be of use to our professional brethren to insert the following.

The East African Protectorate vacancies are partially caused by death. Mombasa is not Brighton. None of the appointments are plums.

Young members, or members who contemplate applying should consult the Colonial Office list for information of Colony.

The ultimate aim of every official is for pension. The nicer the bait (salary) the nastier the hook (appointment). Pensions are computed on the number of years service, and 1-60th of salary per year's service is the rule in most colonies. After ten years a man may claim 10-60th of his salary as his pension, but the Government may hold you for thirty years from time of admission. Resignation loses all pension. Q.E.D.—Yours truly,

ONE IN IT.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1354

JUNE 20, 1914

VOL. XXVI.

BOARD OF AGRICULTURE—ANNUAL REPORT OF THE CHIEF VETERINARY OFFICER FOR THE YEAR 1913.

Sir Stewart Stockman's annual report is now to hand, and contains much valuable information. This week we deal only with that portion which relates to scheduled disease, leaving other important matters for consideration in a future note.

The report commences with foot-and-mouth disease. The two outbreaks which occurred in 1913 are fully described, and the points of epizootiological interest noted. In neither case could the origin of infection be traced, though in one—the Sussex outbreak—there was a possibility of virus having been carried over by seabirds from the north of France.

Some other diseases are dealt with very briefly. Equine mange is decreasing; but, as the Order against it has only been in force a comparatively short time, the chief officer has little to say upon it. Tuberculosis, which was only scheduled in 1913, is touched very lightly in the report for a similar reason. The Tuberculosis Order was in force for the last eight months of the year, in which time 4,720 cases reported under it were confirmed. The Chief Officer remarks that the returns are "of considerable interest"; but the late arrival of many of them has obliged him to postpone their analysis for a future report. Next year, probably, we may expect some detailed consideration of the results of the Tuberculosis Order—in the meantime, the figures show how sorely the Order was needed.

Anthrax has decreased once more; but we still think that there must be much unreported disease. Only 23 cases in horses, for instance, are reported this year—surely too small a figure. The Chief Officer makes some important observations regarding anthrax. He reminds us that an exhaustive enquiry a few years ago proved "that infection in about 80 per cent, of the cases was due to virus imported from counties where the disease is enzootic." He concludes that "This being the case, it must not be expected that the decline in the number of outbreaks will be continuous, as the incidence depends largely on occurrences outside this country." Clearly, then, the Anthrax Order

can do little more than what the Chief Officer tells us it was designed to do, viz.—"Control the spread of anthrax once a case has occurred on premises, and prevent a recurrence of the disease."

Certainly it is succeeding in this so far as reported disease is concerned; but how much exists unreported?

On the whole it seems probable that anthrax will still be with us when every other disease now scheduled has disappeared.

Sheep scab also has decreased, but not so markedly as in previous years. This is due partly to importation of infective sheep from Ireland, but much more to another fact which makes that importation unavoidable, and also increases our difficulties with indigenous disease. It is now known that acari may live months and even years upon a sheep without causing noticeable symptoms of disease—and this, by the way, suggests a line of enquiry in the question of recurrent equine mange. Our present Sheep Scab Order will eradicate the disease in time—but the time will be longer than was once expected.

Swine fever has decreased a little, but this may be only one of its numerous and inexplicable fluctuations. The position is admitted to be unsatisfactory, so a new experiment is to be made. It will be remembered that the Departmental Committee on Swine Fever advised that the Board should undertake field observations upon selected premises with regard to serum treatment. This is to be done, and the Chief Officer details the procedures he proposes to adopt. Of course the consent of owners will be necessary, but that is not likely to be difficult to obtain.

The section upon glanders is very interesting. The disease decreased in 1913, but only very slightly indeed. The Chief Officer analyses the returns, and brings out several points. The Mines Act accounted for six outbreaks in imported Russian ponies. Further, its influence led one colliery company to test its entire stud in different stables, thus causing nine outbreaks to be recorded as separate ones. Finally, one hitherto undiscovered centre of infection accounted for sixteen outbreaks more. The Chief Officer concludes "the apparent absence of success, then, of the operations against glanders in the past year is not real." We add that the history of glanders for this year, so far, wholly supports his view. Again, the proportion of recurring outbreaks was very high in 1913; and this, indicating as it does more frequent re-testing, is another hopeful sign. The report suggests the possibility of blood tests being adopted in the near future. But we think that mallein alone will suffice to eradicate glanders.

DEATH OF A FOAL—TOXICITY OF MORPHIA?

Subject. A male Clydesdale foal, born normally and without assistance during the night of May 29th, a few days prior to full time. The following morning, May 30th, the foal appeared weak and could not rise or remain standing without help, and persistently refused to suck till about 10.30 that night, when having gained considerably in strength during the day, it commenced for the first time to take nourishment naturally. During the day frequent attempts had been made to induce the foal to suck, but finding them unsuccessful the mare was milked into a cup and the milk administered to the foal—evidently much against its will—both by spoon and by rubber teat on the end of a bottle. During this period loose respiratory rales in the neighbourhood of the larynx and trachea became audible.

The following morning the foal had improved to a remarkable degree; it was sucking frequently and freely, and except for occasional tracheal rales, appeared as healthy, bright, and lively as could possibly be wished for till about 2 p.m., when indications of abdominal pain were noticed. The abdomen was drawn up, the abdominal muscles tense, and the patient evidently uneasy and distressed. The bowels and urine had been in every way normal up to now.

These unfavourable symptoms became rapidly worse, and by 4 p.m. it was quite apparent that the foal was suffering acute abdominal pain. The rectum, as far as could be explored, was empty. About 2oz. of castor oil with 30 minims Collis Brown's chlorodyne were administered, a few ounces of cow's milk, raw eggs, and whisky having been previously given by the attendant. Hot fomentations were applied to the abdomen, and about 8oz. of soapy water rectally injected. In half-an-hour's time the evidence of abdominal pain had become still more intensified and the patient appeared to be suffering extreme agony. There was some difficulty in drenching him or persuading him to swallow, and I therefore decided—wisely or unwisely—to administer half a grain morphine sulph. hypodermically. A little later the pain appeared to be considerably relieved, the patient went quietly to sleep, and died seemingly in his sleep about 8 p.m.

Autopsy the following morning revealed nothing abnormal on opening the peritoneal cavity. On slitting up the alimentary track several feet of the small intestine showed marked venous congestion of the mucous membrane. Stomach, caecum, and large intestine normal. One small mass, about the size of a filbert, of dense, impacted, faecal matter was present in the small colon. Remainder of abdominal contents normal. Heart and lungs healthy. A large quantity of whitish froth was present in the trachea, extending from the larynx down to many of the larger bronchi, but not extending to the bronchioles or lung tissue. No

other abnormality could be discovered in any other organ or tissue of the body. There was red clot in both sides of the heart.

Queries and Observations. 1. To what extent was this foal "killed by kindness," coupled with morphia?

2. Should a weakly foal that refused to suck be forcibly fed during the first 24 hours? If not, at what age should, or may, forcible feeding be resorted to if still declining to suck?

3. Is refusal to suck, when newly born, at all a common condition in foals or calves? (I am credibly informed that the human infant is frequently given no nourishment of any kind during the first three days of life).

4. Is the drenching or forcible administration of milk a particularly risky or undesirable procedure in the newly-born foal, on account of the danger of fluid entering the trachea? In this case there seems no doubt that the froth in the trachea simply represented milk that had "gone the wrong way," and the appearance of the trachea distinctly suggested that if the foal had survived longer, mechanical pneumonia might have supervened, unless the froth therein became in some other way disposed of. (There was no indication, post-mortem, of pulmonary oedema or congestion).

5. The mare had been in full lactation for a week or more prior to foaling, the milk flowing freely from the udder. The first (colostrum-containing) secretion was thus no doubt wasted through leakage. Might this account for the intestinal congestion, or was the latter more likely to have been set up by the small impacted mass in the floating colon? (There appeared to be no damming back of the bowel contents anterior to this mass).

6. Are there any grounds for the opinion apparently popular amongst the "laity," that a mixture of cow's milk and raw eggs is of value as a laxative for foals?

7. Finally, to what extent was the half-grain of morphia responsible for death? I have a strong suspicion, on reviewing the case, that it probably had a considerable share. Appearances certainly pointed to it, and had not the foal (fortunately) been my own property, I think I should have lost my client as well as the patient! I know that morphia is regarded with the greatest awe by medical men for the *young* of the human species, but have never heard that the same applies to the equine infant. I am of opinion that it is almost impossible to kill an adult horse with morphia.

Any remarks or comments on the above case by practitioners experienced with foals would be much appreciated by the undersigned.

C. H. H. JOLLIFFE, F.R.C.V.S.

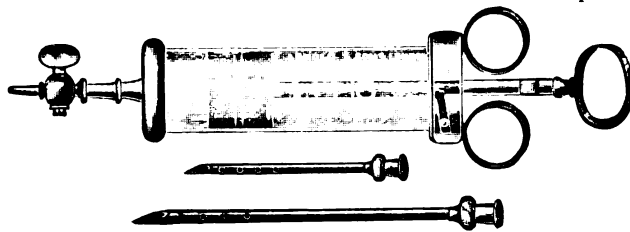
Pickering, Ontario, Canada.

GOVERNMENT PUBLICATIONS.—Messrs. Wyman and Sons, Ltd., official sale agents in England and Wales for Parliamentary papers and Stationery Office publications have issued the following:—Board of Agriculture for Scotland, second report, 1913, price 10d.

A DESCRIPTION OF TWO NEW INSTRUMENTS AND THEIR APPLICATION IN PRACTICE.

Lung Puncture Syringe for extracting germ-laden material through the chest wall in pulmonary diseases.

To procure morbid material laden with tubercle bacilli or other bacteria from a given centre in the living animal body harbouring these bacteria, is not always an easy procedure, nevertheless to those clinicians who are called upon to make their diagnosis by the isolation of the causative organism it is essential. In those cases of pulmonary tuberculosis, as seen in our non-expectorating patients, the difficulties of obtaining sputum are many, and when obtained in the usual manner per os or nasum, during the process of exit and later on transit, the materies morbi is liable to become contaminated by alien bacteria, and in the case of tuberculosis by acid-fast bacilli morphologically resembling tubercle, thereby increasing the danger of errors in diagnosis. To obviate these risks and difficulties I have suggested penetrating the chest wall in selected cases, plunging the needle attached to a suitable syringe into the lung parenchyma and aspirating what liquid or semi-liquid there is to be found.



The syringe has a capacity of 50 cubic c.c. The barrel is made of very strong graduated glass into which is placed a perfectly fitting metal plunger. The needles are two in number, with wide bore and bayonet points, measuring three and four inches long respectively. To permit of lateral suction there are several small perforations made along the wall of the needles at their distal ends. When fluid has been aspirated a stop-cock which is fixed between the approximate end of the needle and the barrel of the syringe can be utilised, serving a double function, as follows: (a) Before the removal of the needle from the chest the stop-cock is turned off, in this manner preventing the materies morbi collected by the syringe from becoming contaminated by alien atmospheric bacteria, a most essential detail where bacterial cultures are desired. (b) The stop-cock brought into play makes the syringe serve as a carrier of morbid material, doing away with the necessity of carrying a sterile receptacle for the purpose. A careful examination of the chest wall of the suspected animal should be made, i.e. auscultation (stethoscopic)—auscultation direct should be relegated to the past—and percussion, with the view of ascertaining the exact physical state of the lungs and locating the most disorganised area or areas. The hair should be clipped and the skin painted with strong tincture of iodine, allowed to dry, and repainted at two intervals. The animal should now be held, nosed and horned, by an attendant, and the anterior border of the rib noted. The needle of the sterile syringe is plunged boldly into the lung structure, care being taken to avoid the intercostal vessels which run along the posterior border of

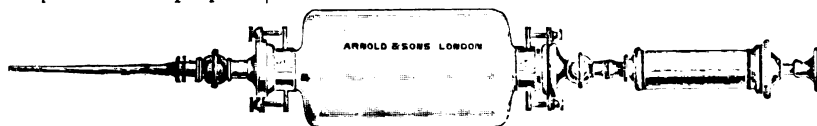
each rib. Where the examination makes us reasonably suspect an infective pulmonary abscess cavity, steady withdrawal of the plunger will fill the syringe with purulent material. Where no such collection of morbid liquid exists, as for example in miliary tuberculosis or pneumonia, it is imperative before plunging the needle into the chest to take up 5 to 10 c.c. of sterile water, sterile normal saline solution, or sterile broth, the latter being particularly necessary where we desire eventually to make cultures from the aspirated material. The syringe now charged with the selected fluid the needle is driven home, after which I gently move it to and fro to break down the lung structure in a small area and make, so to speak, a kind of pultaceous cavity. The fluid is then injected, allowed to remain 30 to 60 seconds and aspirated. The resultant collection will depend for its composition upon the pathological state of the lung itself. It may be purulent, thick or thin, it may be a sanguineous or a sero-sanguineous fluid. If sterile precautions are carefully adhered to no possible danger can follow the operation.

Up to the time of writing I have made over one hundred lung punctures in horses, cattle, and the dog without a single bad sequel, and in the same animal I have punctured the same lung in several places at the same time without the least apparent inconvenience to the patient. Where the puncture is made with the object of identifying the tubercle bacillus it must be pointed out that negative results may not mean the absence of tuberculous lesions, for example, lung puncture in cases of glandular lesions only would possess no diagnostic value. Where pulmonary morbid material is required for the cultivation of the causative bacteria with the view of making vaccines, the advantages of lung puncture over the collection of sputum obtained in the usual way are obvious. In the former where sterile precautions are taken, the risk of alien bacterial contamination is done away with altogether.

Milk Aspirator for the collection of germ-laden milk, particularly Tuberculous Milk, from the udder of a cow.

It is an acknowledged fact that sometimes cows harbour tubercle bacilli in the milk gland and apparently give milk which is tubercle-free, at least centrifugalising and careful microscopical examination of the resultant deposit of such milk often gives negative results. It is just possible in those cases the bacilli may be adherent to the mucosa, or, in any case, infective foci may be found projecting from the mucous membrane which under a certain degree of suction may be compelled to break down and give up the bacteria. Reasoning thus I have devised a milk aspirator.

This instrument is composed of a cylinder made of stout glass with a capacity of 300 c.c., at one end of



which is an aspirating pump, and at the other a tapering needle for insertion in the udder. At each end of the cylinder a stop cock is inserted so that all the air can be expelled, the stops applied, and a vacuum remain for a considerable length of time. The distal end of the needle has several lateral perforations, while the approximate end is gradually widened to the base so that the teat sphincter may closely fit the needle, preventing the ingress of outside air.

The cow should be held by an attendant and the hind legs "spanned," failing this the tail should be drawn in between the hind legs, brought round the hock at the same side as the operator, and held by an attendant. This tends to prevent the instrument or the operator being kicked. The end of the teat should now be scrubbed with cotton-wool soaked in tincture of iodine, and allowed to dry. Some milk should now be drawn from the teat which is again painted with iodine. The needle attached to the aspirator (all the air being previously expelled from the cylinder) should now be carefully inserted into the teat as far as it will go, the stop cock in them turned on, and when a sufficient quantity of milk has been collected, should be turned off. If desired the milk is collected from the other quarters in a similar manner. The stop cocks securely fixed, the needle and pump may now be removed, and the cylinder brought intact to the laboratory. The contents may then be evacuated by placing the cylinder on its end in a measure glass and opening both stop cocks.

STERILIZATION.

As it is essential these instruments should be sterilised before and after use, they are so constructed as to resist a very high degree of heat. The milk aspirator for ordinary practical purposes will only require boiling. In the lung puncture syringe a higher temperature may be necessary, for here it may be brought in contact with material used for incubation purposes, in which case a higher temperature than boiling point is required. Where dry heat is used a gradual rising temperature from the normal up to 130 degrees centigrade may be applied, and in the case of moist heat a slightly higher temperature may be used. Owing to the unequal expanding powers of metal and glass, it is needless to add the piston should be removed from the syringe and the metal flanges from the aspirator, in fact all disjoinable parts should be separated.

The instruments are made at my request by Messrs. Arnold, Giltspur Street, Smithfield, London.

WM. SCOTT, F.R.C.V.S.

ABSTRACTS FROM FOREIGN JOURNALS.

PHLEBITIS ORIGINATING FROM STRANGLES AND RESULTING IN SEPTICÆMIA.

Natal records (*Journal de Méd. Vét. et de Zoot de Lyon*) the case of a four-year-old gelding, which showed an uncertain and dragging method of progression.

The right hind limb was brought forward with difficulty; it was warmer and a little more voluminous than the left; and palpation of it caused pain and left a slight resultant depression. The rectal temperature was 104.5° F.

There were traces of old contusions, entirely cicatrised, upon the hock and cannon regions, but not the least wound.

Upon examination, very localised but very distinct signs of pulmonary congestion were found at the *right* side of the chest. At this point there was a slight dullness and a blowing sound.

The sounds of the heart were dull, ill-defined, and unequal in force, indicating a little myocardiac insufficiency. There was also a little tachycardia.

The palpebral conjunctiva was cyanosed, and the appetite was completely lost.

The diagnosis reached was that of phlebitis of the right limb, with consecutive embolism, which had caused an infarct of the right lung.

The cardiac symptoms were disquieting. The irregularity and muffling of the cardiac sounds, with the tachycardia, indicated enfeeblement of the myocardium and suggested an infectious generalisation, which was already indicated by the pulmonary infarct.

The horse was bled to the amount of five litres (= about 8½ pints). Further treatment consisted in saline purgation, the application of mustard to the chest, the administration of digitalin and caffeine, and moist local dressings.

At the end of four days the temperature had fallen to 102.2° F., the pulmonary symptoms showed a distinct amelioration, and a slight improvement in the general condition appeared to be produced. But the heart continued to show the same feebleness, while the engorgement of the cannon and hock increased, despite all care, and rose upwards.

Three days later the local symptoms became disquieting. The horse remained lying most of the time, and in the rare and short intervals of standing he bore no weight upon the affected limb. The local sensitiveness and pain increased. The finger left a very deep impression in the œdematous regions.

This condition remained stationary for a few days, and then grew worse. Fistulæ opened upon both the anterior and posterior roots of the internal saphena vein, and after the external saphena, giving exit to a thick creamy yellow pus, manifestly pertaining to strangles pus. The pus was streaked with blood, and sometimes pure blood flowed away.

The horse now collapsed very rapidly, and died fifteen days after the first examination.

It seems clear that the animal died of septicæmia, the pathogeny appears easy to establish. The infection of the blood had occurred from microbial emboli proceeding from the phlebotic area. The horse had been one of a lot of strangles patients, and the pus from the fistulæ had the characters of strangles pus. Strangles streptococci, therefore, had invaded the blood stream. Under the influence of contusions—the animal being infected with strangles—strangles abscesses were formed in the more or less immediate neighbourhood of the saphena veins, and the latter had gradually been invaded by the infection, causing phlebitis and then septicæmia.

Post-mortem, the chief interest lay in the condition of the right hind limb. It was the seat of an enormous enlargement, especially marked upon the leg and thigh. Above the hock on the inside were two fistulæ which, upon the least pressure, discharged yellow creamy pus streaked with blood. A symmetrical fistulous opening existed on the outside. The internal fistulæ were connected with the anterior and posterior roots of the internal saphena vein, and the external one with the external saphena and the gastrocnemius. The tendon of the gastrocnemius was undergoing mortification, and was bathed in pus.

The internal saphena vein was thrombosed, forming a hard resistant cord. Its walls were "transformed into a pyogenic membrane," and contained a purulent liquid mixed with blood clots. It presented these characters as far as the region of the two adductors of the leg, where it was finally obliterated by a large blood clot. The femoral vein which continued it was healthy. The muscles of the limb had the aspect of congealed meat, and were strewn with miliary abscesses containing very thick pus.

There was nothing noteworthy in the lung apart from hypostatic congestion, and one portion a little darker than the rest, which appeared to be the centre of the embolism.—*Annales de Méd. Vét.*

CHRONIC PYOMETRITIS IN A COW.

Herbet records (*Journal de Méd. Vét. et de Zootechnie de Lyon*) the case of a sterile cow, ten years old, which for several years had shown symptoms of abdominal pains. During the latter part of the time her appetite had become capricious.

Upon examination, Herbert discovered chronic peritonitis with effusion; but was unable to determine the origin of the condition. The cow died the next day.

Post-mortem, the uterus was found to be of enormous size. The inferior and median part of the body of the uterus showed a black ecchymosed portion, with a large opening at its centre. This opening was circular in one-third of its extent and almost rectilinear in the remainder.

Pursuing the examination of the uterus, Herbert found that its internal face was destitute of cotyledons, and that it had never possessed an opening giving access to the vagina. The vagina itself, which was thus a veritable *cul-de-sac*, was extraordinarily capacious.

The histological study of the uterine wall revealed lesions of chronic purulent metritis.

The rupture of the inferior wall of the uterus may be explained by the distension and thinning exercised by the abundance of exudate accumulated in the uterine cavity. Perhaps a traumatism or some effort may have encouraged the rupture. The actual cause of death was secondary peritonitis.—*Annales de Méd. Vét.*

GIANT-CELLED SARCOMA OF A DIGIT.

The giant-celled sarcoma, which develops exclusively upon bone, is not a common tumour in animals. Its rarity in the digital region has led Ball to record (*Journal de Méd. Vét. et de Zootechnie de Lyon*) the following case.

The subject was a cat, six years old. The right fore foot appeared voluminous as a result of the presence of a rounded tumour the size of a walnut in the region of the fourth digit. At the summit of this neoplasm was a small ulcerated prominence, reddish and granular upon its surface, and covered in places by scabs.

The skin was adherent to the neoplasm. The hairs had disappeared upon the summit of the lesion, around the ulceration.

The consistence of the tumour was firm. Upon section the tissue showed a lobulated structure, a greyish colouration, and a very vaguely hyaline aspect. The lobules measured from a few millimetres to one centimetre in diameter, and were united by a very fine framework of connective tissue. Some lobules were soft and hæmorrhagic.

By its progressive development the tumour had caused the separation of the third and fifth digits, the claws of which flanked the neoplasm laterally.

Histologically, the tumour showed the characters of a giant-celled sarcoma.—(*Annales de Méd. Vét.*)

(Nothing is stated of the history, or whether treatment was attempted.—*Transl.*)

W. R. C.

THE BROWN INSTITUTION.

The annual report of the Superintendent of the Brown Animal Sanatory Institution (Mr. F. W. Twort) has been received by the Senate of the University of London. The Institution was founded under the will of the late Mr. Thomas Brown, who died in 1852, for the purpose of "investigating, studying, and without charge beyond immediate expenses, endeavouring to cure maladies, distempers, and injuries any quadrupeds or birds useful to man may be found subject to." The report states that in the year 1913 the total number of examinations of animals made was 7,036, and the total number of animals brought to the Institution was 6,022, of which 565 were in-patients at the hospital. Animals under treatment included 3,956 dogs, 1,355 cats and 535 horses, the commonest diseases being distemper, mange and scabies in dogs, and lameness in horses. It was estimated that 400 animals were sent away to veterinary surgeons treatment being refused on the grounds that the owners could afford to pay the proper fees. Of the 565 in-patients, 520 were cured or relieved, 17 died, and 28 were destroyed as incurable. The research work of the laboratory attached to the Institution included investigations on the thyroid gland, John's disease, tuberculosis, leprosy, and infantile diarrhoea, the last investigation being carried out for the Local Government Board.

UNIVERSITY OF LONDON.

REPORT OF THE SUPERINTENDENT OF THE BROWN INSTITUTION FOR THE YEAR 1913. [ABSTRACT.]

PREMISES AND STAFF.

Through lack of funds it has been found impossible to replace the old zinc shed and wooden hutches which are used for rabbits, guinea-pigs, and other small animals, and it has been found impossible to replace the old operating shed.

As has been pointed out in previous reports the roof of the stables needs re-slating, and I am of opinion that it would be advisable to place electric light in the house, also to cut off with a tap the network of gas pipes under the laboratory and to place a new straight pipe in the laboratories.

LABORATORY.

The five lectures required to be given under the will of the late Mr. Brown were delivered during December in the theatre of the Royal College of Surgeons, and I wish to thank the Council for allowing me the use of the theatre. The subject of the lectures was "The Cultivation of Animal and Vegetable Micro-organisms."

During the year a number of pathological and bacteriological examinations were made on materials which were obtained from the hospital. Other investigations have been carried out in the laboratories by different workers.

MR. W. EDMUNDS.

(1) *The functions of the Thyroid and Parathyroid glands.* Mr. Edmunds has continued his investigations on the thyroid and parathyroid glands; the experiments had relation to the functions of these glands, and to the nature of exophthalmic goitre in man. The experiments were performed on dogs.

PROF. T. HEWLETT AND
DR. J. A. SHAW-MACKENZIE.

(2) *Serum tests for malignant growths.* Professor Hewlett and Dr. Shaw-Mackenzie have carried out some experiments on certain serum tests for malignant growths.

DR. C. C. TWORT (Beit Memorial Fellow).

(3) *Production of Johne's disease in Rodents.* Dr. C. C. Twort has carried out a number of experiments with Johne's bacillus and small animals, and by the use of a strain of Johne's bacillus which had been acclimatised to grow on ordinary glycerine-beef broth, has infected rabbits, rats and mice. He has shown that the bacilli do not multiply at the site of inoculation but, as in ungulates, select the lymphatic glands and intestinal mucosa for their further development. The disease produced in these animals is practically identical with that found in naturally infected cattle and sheep.

(4) *Coccidium oviforme and coccidium bovis.* This investigation was undertaken to determine whether or no these coccidia are identical; the work is being continued.

(5) *The rapidity with which lymphatic glands become infected.* The results of this investigation demonstrate that when micro-organisms are inoculated into the peritoneal cavity of animals, the lymphatic glands in the thorax become infected within five minutes after the intraperitoneal inoculation. The same result was obtained with all the micro-organisms tested; these included tubercle bacilli, Johne's bacillus, staphylococci and other cocci.

(6) *Immunity in tubercular disease.* This investigation is being conducted to determine the relation between the caseation of tubercular tissues and the rise of temperature produced by the inoculation of a vaccine or by an auto-inoculation. A considerable number of experiments on the test tube immunity reactions in tubercular disease and in Johne's disease are also being carried out.

THE SUPERINTENDENT.

(7) *The cultivation of the lepra bacillus of rats.* These experiments have been continued, and I have attempted to grow this bacillus on a number of fresh media and under various conditions. All the results were negative.

In addition to the experiments related above, I have carried out several investigations conjointly with Mr. G. L. Y. Ingram, with Dr. Mellanby, and with Dr. C. C. Twort. These experiments were as follows:—

With Mr. INGRAM.

(8) *Johne's disease of cattle.* We have continued our experiments on this condition and have shown that (i) the disease may extend to the lymphatic glands outside the abdominal cavity, (ii) the disease in sheep is identical with the disease in cattle, and is produced by the same bacillus, (iii) diseased sheep react to a diagnostic vaccine of Johne's bacillus in the same way that cattle react, (iv) Johne's bacillus, besides growing on media containing other acid-fast bacilli, or extracts obtained

from them, will also grow on media containing extracts obtained from certain vegetable substances: these include the chloroform soluble portion of an alcoholic extract of crushed fig seeds, an alcoholic extract of certain fungi such as *Cantharellus aurantiacus* Fr., an alcoholic extract of certain seeds such as linseed, etc. These results confirm the suggestions put forward in our previous papers and in our "Monograph on Johne's disease."

It may be mentioned here that the work carried out on Johne's disease at the institution since the beginning of 1910 has been published in fourteen parts, as papers in different journals, including those which have been accepted for publication but have not yet appeared. The work to the end of March, 1913, was included in a monograph on Johne's disease which we published in April.

With Dr. E. MELLANBY.

(9) *Infantile diarrhoea.* This investigation is being carried out for the Local Government Board. During the past year we have isolated and tested a number of bacilli, and have carried out a considerable number of experiments to ascertain the conditions which determine the absorption of toxic substances from the intestinal tract. The work is being continued.

With Dr. C. C. TWORT.

(10) *The nature of certain filter-passing micro-organisms.* This investigation is also being carried out for the Local Government Board.

HOSPITAL.

The total number of examinations made was 7,036, and the total number of animals brought to the Institution was 6,022. In addition to these probably 400 animals were sent away to veterinary surgeons, treatment being refused on the grounds that the owners could afford to pay the proper fees.

The actual numbers of the various animals were as follows:—

Species.	Out-Patients.	In-Patients.
Horses	535	136
Asses	25	2
Goats	5	3
Dogs	3956	289
Cats	1355	125
Poultry and other Birds	122	5
Rabbits	22	4
Monkeys	2	1
	6022	565

Operations, etc.	Cured or relieved.	Died & cause of death.	Destroyed incurable.	Total.
Abscesses	48	5 Pneumonia	3	56
Actual cautery, etc.	105	—	—	105
Amputations—Limb	—	1 Chloroform	—	1
" Tail	18	—	—	18
* Castrations—Horses	2	—	—	2
" Asses	1	—	—	1
" Goats	3	—	—	3
Entropion	4	—	—	4
Extraction of Teeth	10	—	—	10
Fractures set	85	—	10	95
Hæmatomata	15	—	—	15
Herniæ—Umbilical	2	—	—	2
" Inguinal	5	1 Chloroform	—	6
Mallein test	2	No reaction	—	2
Neurectomy	2	—	—	2

Operations, etc.	Cured or relieved.	Died & cause of death.	Destroyed incurable.	Total.
Paracentesis Abdominis	—	3 Tuberculosis	9	12
Poisoning	—	3 Strychnine	6	9
Quittor operation	2	—	—	2
Trephining (antrum)	1	—	—	1
Tumours excised	75	—	—	75
Wounds	60	—	—	60
Skin diseases	57	—	—	57
Parturition	6	4 Septic metritis	—	10
Prolapsus uteri	3	—	—	3
" ani	2	—	—	2
Eye enucleations	12	—	—	12
	520	17	28	565

* Castration of male cats, 325—not kept as In-patients.

OUT-PATIENTS.

H = Horses : D = Dogs : B = Birds : R = Rabbits :
A = Asses : C = Cats : G = Goats.

Infectious Diseases.

750 Distemper	D 721, C 29.
— Glanders	3 Tested. Reaction negative.
5 Influenza	H 5.
12 Strangles	H 12.
66 Tubercle	D 3, C 8, B 55.

Alimentary Canal, etc.

132 Dental caries	H 10, D 116, C 6
180 Dental irregularities	H 152, A 2, D 26.
20 Foreign bodies	D 15, C 5.
25 Stomatitis	D 16, C 9.
14 Colic	H 14.
190 Constipation	H 3, D 171, C 16.
163 Diarrhoea	H 2, D 133, C 26, G 2.
45 Enteritis	D 23, C 22.
6 Fistula of anal glands	D 6.
295 Gastritis	D 295.
15 Herniae	D 13, C 2.
2 Impaction of Colon	H 2.
3 Volvulus	H 1, D 2.
5 Jaundice	C 5.
350 Parasites (Ascarides, Taeniae)	D 195, C 155.
30 Ascites	D 10, C 20
5 Anal prolapse	D 4, C 1.

Respiration, etc.

21 Asthma	D 21.
55 Bronchitis	D 53, C 2.
3 Emphysema	H 3.
7 Laryngitis	H 7.
60 Pneumonia	H 8, D 40, C 12.
2 Pus in facial sinuses	H 2.

Skin Affections, etc.

5 Botryomycosis	H 5.
245 Eczema	D 245.
10 Erythema	D 10.
520 Follicular mange	D 520.
450 Scabies	D 350, C 100.
18 Necrosis (harness pressure)	H 18.
40 Ringworm	D 31, C 9.
19 Urticaria	D 19.
11 Parasitic mange (Sarcoptic, Psoroptic)	H 11.

Nervous Affections.

61 Chorea	D 61.
14 Epilepsy	D 14.
80 Paraplegia	D 68, C 12.

Affections of Generative Organs, and Urinary Tract.

35 Cystitis	D 5, C 30.
2 Infective granuloma	C 2.
8 Mastitis	D 8.
10 Metritis	D 10.
2 Orchitis	D 2.
3 Urethritis	C 3.
2 Vaginitis	D 2.

The Ear.

4 Congenital deafness	D 4.
250 Otorrhœa	D 230, C 20.
35 Hæmatomata	D 5, C 30.
280 Otacariasis	D 75, C 205.

The Eye.

31 Cataract	H 1, D 28, C 2.
166 Conjunctivitis	D 156, C 10.
63 Corneal ulcers	D 60, C 3.
3 Entropion	D 3.
1 Luxation of Lens	D 1.
136 Keratitis	D 136.
3 Staphyloma	D 3.

Unclassified.

3 Luxation of Patella	D 3.
8 Rachitis	D 8.
5 Lymphangitis	H 5.
4 Thyroid enlargement	D 4.
603 Lameness in horses, etc.	H 601, A 2.
223 Wounds	H 6, D 156, C 61.
36 Interdigital cysts	D 36.
5 Diabetes insipidus	D 5.

F. W. TWORT, Superintendent.

March 13th, 1914.

LINCOLNSHIRE

VETERINARY MEDICAL ASSOCIATION.

[NATIONAL V.M.A. SOUTHERN BRANCH.]

A meeting was held at the "Angel" Hotel, Peterborough, on Thursday, June 11th. Mr. C. W. Townsend, F.R.C.V.S., of Long Stanton, the President, in the chair. Also present : Messrs. T. Hicks, Sleaford, Hon. Sec.; T. B. Bindloss, Long Sutton; F. L. Gooch, Stamford; Geo. Lockwood, J. Mackinder, Peterborough; A. Lennox, Crowlands; W. W. Lang, Ulceby; H. H. Nichols, Oundle; J. H. Poles, Whittlesea; T. A. Rudkin, Grantham; and H. C. Taylor, Caistor.

A telegram was received from Mr. W. A. Allott, Upwell, regretting inability to attend.

The minutes of the February meeting were taken as read.

PETROL TAX AND JURY SERVICE.

Mr. BINDLOSS said that by the minutes he saw that it was stated by a member at the last meeting that veterinary practitioners were free from the petrol tax and jury service—was that so?

The HON. SEC. said that was not correct. They were not exempt from the petrol tax, but they said they ought to be.

Mr. GOOCH said they would not let him off the petrol tax, even as a tradesman. As to jury service the only way to get off was to see the overseer and get him to mark them as not eligible.

Mr. BINDLOSS : The overseer is liable?

Mr. GOOCH : No. I claim exemption as a medical man.

Mr. BINDLOSS said jury service did not affect practitioners in town so much as in the country, and if he were summoned to Lincoln Assizes for Monday he had to go overnight.

The CHAIRMAN: You are not exempt then?

Mr. BINDLOSS: No. I have tried to get off at Spalding Quarter Sessions, but without avail.

Mr. GOOCH said that they would be exempt under the Charter of the Royal College now before Parliament.

The HON. SEC.: If that becomes law it will relieve us of service.

Mr. GOOCH: Yes.

THE INTERNATIONAL CONGRESS.

Sir Stewart Stockman wrote asking the Association to appoint a member to represent them at the International Congress in London from the 3rd to the 8th August.

On the motion of Mr. Hicks, seconded by the President, Mr. F. L. Gooch was unanimously appointed a delegate, and it was decided to send the necessary subscription of £1.

Mr. GOOCH returned thanks for the honour done him, and said he should be glad to hear from members who had not subscribed to the entertainment of their foreign visitors. The sum of £79 2s. had been promised, and he had received to date £69 6s. and he should like to make it up to £100.

THE LATE MR. WM. HUNTING.

The President of the Royal College wrote asking the Association to assent to the petition to the Treasury for a pension to be granted from the Civil List to the children of the late Mr. Wm. Hunting.

The CHAIRMAN: I am afraid the petition has gone to the Treasury.

Mr. GOOCH said one had been sent in, but they could send another to Mr. Gray as suggested in the letter.

The CHAIRMAN said it was a most deserving case, and no one was more generous in forwarding the work of the Association than Mr. Hunting.

Resignation. The resignation of Mr. Andrew Young, of Chatteris, was accepted.

DEATH OF A MEMBER.

The President said he regretted to have to record the death since their last meeting of Mr. Howse, of Lincoln, one of their oldest members, and indeed one of the founders, he believed, of the Association. He moved a resolution of condolence with his relatives.

Mr. RUDKIN: I knew him before I joined the profession; a nicer man or a better professional friend I never knew. He has no relatives, but I should like it recorded on the minutes that he was "one of the best."

The HON. SEC.: Out of respect for the profession, his housekeeper gave me an intimation of his death.

Mr. MACKINDER: He was present at our first meeting, at Louth.

The resolution of regret was carried, all standing, and ordered to be entered on the minutes.

FEES FOR EXAMINATION.

A scale of examination fees adopted by the National Veterinary Medical Association, and forwarded by Mr. Theo. Toope, of Dover, was adjourned for consideration to the next meeting.

SOME INTERESTING CASES.

By W. W. LANG, M.R.C.V.S.

At our last two meetings we have had what I might describe as more advanced though quite desirable subjects, viz., "The method of milk examination for tubercle bacilli" by Mr. Lewis, and a paper with demonstration on "Abdominal Surgery in the Dog" by Professor Brayley Reynolds. Now, I trust it is no retrograde movement on my part to return to the more common experiences of our everyday life and give you a paper on what we all more or less meet in our ordinary practice.

DYSTOKIA: OPERATION.

My first case hardly needs the above description because it bears on Professor Reynolds' paper. Curiously enough, just a week after, I had a case of dystokia in a very small Yorkshire terrier. She was not due to whelp till the end of the week, but evidently a long motor ride from Kent to North Lincolnshire on the Monday had upset her, for about 7 p.m. the same evening she became uneasy. I was called in the following night about 9 p.m., and on examination could feel the nose of the foetus at the entrance to the pelvis. As the bitch was so small I could do nothing by manual manipulation and as the foetus appeared normally placed I gave her, to begin with, 5 minims Pituitrin, which very shortly caused a good deal of discomfort and uneasiness. No progress was made so I repeated the Pituitrin, giving larger doses up to 1 c.c. but while there was no doubt of the action of the agent it was now (11 p.m.) apparent that nothing short of an abdominal operation was indicated. Accordingly I had her brought to my place next morning early, and with the assistance of Mr. Taylor the operation was carried out.

We gave about $\frac{1}{2}$ gr. morphia (perhaps rather much) without chloroform, and as soon as anaesthesia was complete we commenced. On reference to Prof. Hobday's book I found the remark that in such cases as large an incision as is necessary should be made. You will realise on hearing the following how large that abdominal opening was.

The first organ to come into view was a very much distended bladder; for the moment I wondered what it was. We attempted to pass a catheter, but soon realised this as a dangerous if not impossible procedure. The difficulty was overcome by tapping the organ with a hypodermic needle and drawing off the urine. When we got to the uterus, which appeared normal in colour, we found only one puppy, a very large one, and, as we afterwards discovered, emphysematous. The abdominal wound had to be considerably enlarged to allow of ligaturing the ovarian vessels and detaching the ovary and horn. After repeating this part on the other side we found that the nose of the foetus was jammed in the pelvis—this accounted for the state of the bladder—while the hind parts were closely pressed against the ovary, and that it was impossible to withdraw the puppy to allow of ligaturing the uterine neck. To overcome this we held the ovarian end of the horn well away from the abdomen, incised it, and pulled the foetus out altogether. The rest of the operation was as usual—ligature of the neck, sterilization of the stump and suture of the now enormous abdominal wound.

The operation took place about 11 a.m.; the bitch recovered consciousness about 7 p.m. and took an interest in things, but about 10 p.m. she commenced to collapse and died at 1.30 a.m., no doubt from shock.

I am informed that in human surgery the operation, after labour pains have commenced, is nearly always fatal. Altogether I think we had bad luck in our first case. We feel satisfied that so far as the operation is concerned it was quite all right though we seemed a long time over it.

Here I may mention a point in connection with Prof. Reynolds' paper on Inguinal hernia. In man, I understand, a method of operating which finds favour is to push the forceps through the internal oblique muscle, seize the hernial sac at its apex and draw it through until comparatively taut, ligature and stitch the stump to the fascia. You may wonder, as I did, whether there is any likelihood of recurrence, but the answer is in the negative, though one would naturally expect that in a successful operation by ligaturing the sac over the ring in the ordinary way a larger swelling with subsequent cicatricial contraction would prove a more formidable barrier to any subsequent prolapse of the bowel.

I can understand that we may sometimes be called upon to operate on the male, but not castrate—the two are usually carried out together in our patients—in animals specially valuable for breeding purposes, and I think the above method may with advantage be tried. In our patients, however, it might be more advantageous to stitch the stump to the muscle itself for greater security. When the sac is not drawn as tightly as required a stitch is inserted to bring the canal to its normal size.

DOUBLE MEDIAN AND ULNAR NEURECTOMY.

Some years ago I bought a weight-carrying cob which had been used as a polo pony. As was to be expected he was rather full in the legs, if I may use the phrase, but as I got such a good character with him I risked him. He did very well in harness for a bit, then began to go short. Rest improved him, but work undid him again. I diagnosed ostitis, and, accepting the late Mr. Hunting's statement that there is no cure, decided to unnerve. I had had practically no experience of the operation, so, after concluding that the internal aspects of his fetlocks were more at fault, I operated on the internal plantars only—but without success. At this stage I severed one of the arteries, and although there was no really bad after effect, that part used to fill up considerably while the animal stood in a stall and go down again with exercise. An interesting point here is that until it had filled up it always "sweated." About that time I got into communication with Mr. Willis, of London, who generously advised me, saying that in all cases of lameness at or above the level of the fetlock median neurectomy was required, and that in my case probably both median and ulnar neurectomy would be necessary. He was quite right; after the animal recovered from the median operation work soon proved the necessity for the ulnar, which was done some time in May. In a few days, from want of experience, I was rather startled on finding that the hoof had separated from the skin on the inside heel of one foot, but this proved to be a false alarm; the condition had evidently been caused by struggling in the hobbles.

From that time onward he worked as well as possible though I set up ostitis on the off fore leg by working him hard in order to get him accustomed to motor traffic. Bandaging and a few days' rest soon put that right.

Many, when I have told them, have expressed the greatest surprise that with perfect safety I drove, hacked, and hunted this cob from the beginning of the cubbing season till the end of the following February. I knew no difference between him and a sound horse. Gentlemen, don't imagine I was reckless to a degree, for I tried him hacking and jumping before I hunted. All went well till one day when galloping across a field one of his legs went "flippity flop," just as if he had a leg over the rein, when I pulled him up—he did not fall. When he put weight on the leg down went the fetlock and up went the toe, so I destroyed him at once. I had suspected a slight returning sensation, though he was insensible to pin pricks, but after the leg gave way he appeared to have no pain, alternately grazing and listening to hounds till he was shot.

Post-mortem examination revealed complete dislocation of the fetlock joint, the suspensory torn off the sesamoids, these bones themselves forced from their attachments, and all tissues separated from the lower end of the metacarpus to the extent of 3-4 inches. Neither of the flexors was ruptured, and all the severed nerves had reunited, though I had removed from $\frac{3}{4}$ inch to 1½ inches.

These are the bones from both knees downwards; there are signs of ostitis, but the chief interest lies in the sesamoids, which are all diseased, the external sesamoid of the near fore least so. The grooves parti-

cularly show necrosis, and I think the thickening of the fetlocks at that situation was Nature's effort at compensation. Why is the external sesamoid on the near fore comparatively healthy? What is the cause of the trouble, sprains or blows, brushing for the inside two and blows from the polo stick for the external sesamoid of the off fore? He was perfectly straight in action, but we all know what polo is. I shall be glad to have your opinion.

A FEW ABDOMINAL CASES.

This is a very wide subject, quite incapable of being fully discussed to-day, so I purpose mentioning and discussing only a few cases which I have met in practice. I do not possess the book on Colics by Mr. Caulton Reeks—the loss is probably mine—but with the coming of Hutyra and Marek my interest has been considerably quickened. I hold the opinion that no one has a greater contempt for his own powers of differential diagnosis than I; we have all heard of such a symptom being diagnostic of such-and-such a condition, but I sometimes have very great difficulty. Hutyra and Marek state that in many cases there is no diagnostic symptom, and at the same time they attach a great deal of importance to rectal exploration. In my earlier days this was confined to unloading the rectum preparatory to giving an enema; then when I came to North Lincolnshire and met so many cases of impaction I confirmed my diagnosis in this way.

In the following short list I hope to illustrate the diagnostic difficulties and at the same time to draw attention to the importance of rectal exploration; correct diagnosis in this way, according to Major-General Smith, necessitates a thorough knowledge of the physiology and anatomy of the abdomen, and I fully appreciate that statement.

DRAPHRAGMATIC HERNIA.

(1) This case occurred a few years ago so I do not remember all the symptoms shown. Suffice to say the horse was at grass when taken ill, and the chief characteristic was vomiting of clear gastric fluid at short intervals for 20 hours before death; the animal stood practically still all the time. Post-mortem revealed a small hole in the diaphragm through which about six feet of the small bowel had found its way into the thorax. There was a fair amount of cicatricial tissue, apparently of recent origin, round the hernial opening, so we concluded that it was something of the nature of a perforating ulcer.

The next two cases were similar in some respects; the animals did not die, but I should like to know what was actually wrong.

(2) Gelding: taken ill at 10 p.m., saw him at 3 a.m., considerable abdominal pain, sweating profusely, pulse over 80, belching at short intervals—this continued for 12 hours. Examination per rectum revealed the small bowel considerably distended, but all the rest appeared normal. *Diagnosis:* Twist—strangulation is a better term. *Prognosis:* Death.

I attempted to pass a rubber tube to relieve the gastric tympany, but without success as my tube was not long enough. There was no difficulty in handling the animal and inserting the tube as far as possible. As the horse had already received two colic draughts and a pint of linseed oil, I contented myself with giving hypodermically a strong dose of morphia and atropine, but this had little effect. The owner promised to report, so about 9.30 a.m. a telegram was received stating that the horse was still alive but very bad; about 11 a.m. another wire, "Come to horse." I was agreeably surprised to find the patient much better, and was informed that shortly before he had had a very rough time.

(3) Mare: taken ill at 8 p.m.; called to her at midnight. Pulse 44, uneasy, sweating, getting up and

down, peristaltic action excessive, but no gastric symptoms, no belching; passing faeces in small quantities but no flatus; rectum empty, but not dilated; small bowel much distended as in previous case. Had received the customary oil and three colic draughts.

10 a.m. Pulse 60, still no motion or flatus; went on with stimulative treatment.

8 p.m. Pulse 96, and very weak, prognosis death, wished to perform laparotomy, but was refused permission. Gave a warm enema only. Within half-an-hour peristalsis increased again, and recovery was uninterrupted. The pain in this case was continuous for 24 hours.

TWIST OF THE DOUBLE COLON.

In the next two cases the cause of death was complete torsion of the double colon at its base.

(1) Mare: pulse about 80, and very weak, pain not violent but continuous; animal lay quiet for considerable periods. Rectal exploration satisfied me that the double colon was considerably displaced as I could not locate the pelvic flexure. Diagnosis: twist. The owner was willing, so I chloroformed and examined the abdominal contents through an incision in the roof of the vagina, but that proved unsatisfactory; the mare was too long for me to reach the seat of the trouble. Post-mortem as above.

(2) Mare: very violent, sweating profusely, passing liquid faeces: examined per rectum, but without any satisfaction as she was dangerous to the operator. Had oil and colic draughts as usual, so gave anodynes per os and hypodermically, but without effect. Post-mortem showed a condition similar to the preceding case.

Note the difference in the amount of pain and duration of illness; the second animal died in six hours less than the first, and still the pathological condition was the same as far as I could see.

MESENTERIC TWIST OF SMALL BOWEL.

Mare taken ill at 1 p.m.: saw her in a dying condition at 7 p.m. On rectal examination I found the twist, but could not satisfy myself as to its true nature. As dissolution was imminent I saw no use in attempting an operation.

Post-mortem confirmed my diagnosis; the twist came undone quite easily. I consider this quite a suitable case for laparotomy, and I believe the trouble could have been rectified through a vaginal incision, though I would not hesitate to operate through the flank.

TWIST OF FLOATING COLON.

When seen this patient was rolling about in great agony. I examined her while still rolling on the floor and found the bowel spirally twisted. I reached in as far as possible, seized the longitudinal band, gently pulled it back to the anus and released it. Reinserting my hand I found the bowel apparently all right; pain ceased immediately, so I tested my opinion by giving no further medicine or other treatment, except a heart stimulant hypodermically. Three days later when taken to work for the first time she was taken ill and died before I got to her. Post-mortem showed the same part of the colon twisted round its long axis. I wondered why there should be a recurrence, but I see that Major-General Smith says the most common cause of abdominal trouble is work.

With reference to differential diagnosis this appears to be very difficult at times. It does not satisfy me to treat all cases in a routine fashion? we all know perfectly well that to get the best results we must treat each case on its merits.

The first case mentioned was, of course, strangulation due to the hernia. Take the two following; what were they? Evidently strangulation, but of what and how?

Had these horses been my own I should have operated, but after events proved that I should not have been justified. Major-General Smith states that the most common cause of death from abdominal diseases is *strangulation*, while Hutya and Marek state that spontaneous recovery from strangulation rarely if ever occurs, and that medicinal treatment is useless.

Possibly the success of stimulative treatment is attributable to the fact that the bowels are kept on the move and thus may extricate themselves. There is quite a formidable list of causes of strangulation in Hutya and Marek: congenital diverticula of the ileum, acquired diverticula of the intestines, ligament between the kidney and spleen, spleno-gastric ligament, falciform ligament of the liver, urachus, small omentum, pediculated neoplasms (generally lipomata), exceptionally pediculated lobes of the liver, stump of spermatic cord, cord of undescended testicle, larger omentum, etc.

Have we in the past been minute enough in the examination of our colic cases? Have we tried as we ought to make a differential diagnosis—and when we have decided what is wrong, what about our treatment? Take for example tympany and impaction of the stomach in the horse. Are we justified in treating these conditions medicinally after the description of the use of Marek's stomach catheter? And if, when satisfied that there is strangulation or twist, why not kill your patient in an honest endeavour to save his life by laparotomy? I think most of my clients would agree, as several have already told me that the horse can only die then. We are apt to forget that we are "veterinary surgeons" not mere "veterinary medicine vendors." Instead of complaining of the medicines sold to our clients—and this is generally useless—we have the opportunity of proving in some cases at least that operative interference is much more efficacious than drugs.

For my own part I should have little fear of laparotomy, not because there is no danger, but because we know that with proper precautions we can take a good deal of liberty with the abdomen and its contents. In my earlier days of rig castration I have often pulled out a piece of the bowel thinking it might be the testicle, and if my memory does not trick me, I believe I have read that Prof. Macqueen, when unable to find the missing organ through the inguinal canal, has located it through the rectum, washed his hand and arm, and carried on the operation in the usual way. I should not like to risk that myself. Then again, some of you at least would see for yourselves in one of the recent journals that Mr. Winter, of Limerick, prefers operating on rigs through a flank incision.

This concludes my paper. If I have kept up the object of these meetings, that of stimulating the interest of the members, I shall feel amply repaid. Should any of you consider anything controversial I trust you will not hesitate to express your opinions. No criticism can be too severe for me, I shall welcome it, and other views, for these are all required that we may get at the truth.

An interesting discussion followed.

The President said he was sure they were very much indebted to Mr. Lang for giving them such an excellent paper on short notice, as a week before they did not know who to look to for one. Unquestionably they could learn much by recording their cases in daily practice.

Mr. Gooch proposed a vote of thanks to Mr. Lang for giving them a paper which they, as country practitioners, could fully appreciate. He thought if more country practitioners attended their meetings there would not be such things said as they now heard in the law courts. He did not remember a meeting he had

attended where he had not learned something. The best knowledge was the knowledge of experience. We may read text-books, but the best teacher is practice. He thought their best thanks were due to Mr. Lang for his paper.

Mr. MACKINDER seconded, remarking that such practical essays as that which Mr. Lang had given them were better than theoretical papers, all learnt by experience, and he would remind them that the maxim "*experientia docet*" is an old one.

Mr. LANG, in returning thanks, said he had never known a discussion which so closely followed a paper.

On the motion of Mr. Rudkin, seconded by Mr. Lennox, a hearty vote of thanks was accorded the Chairman; the members then adjourned for high tea.

Prosecution under the Tuberculosis Order.

In the Midlothian J.P. Court on Tuesday, 9th inst., Arch. Colthart, Cameron Park Dairy, Craigmillar, was charged that, on 29th April, he had in his possession a cow which was, or appeared to be, suffering from tuberculosis of the udder, or indurated udder, and that he did fail to give information to the proper authority in terms of Article 2 of the Order. He pleaded not guilty.

In the evidence, Mr. John Riddoch, veterinary inspector for the City of Edinburgh, said he had visited the accused's dairy, and had had his attention drawn to this particular cow. He suspected from the appearance of the udder that it was tuberculous, and when a sample of its milk was examined under the microscope he found

that it contained tubercle bacilli. The cow was ultimately slaughtered under the Tuberculosis Order.

The milk from the cow was being supplied in the City of Edinburgh, and the matter was at once brought under the notice of Dr. Williamson, the Medical Officer of Health. Witness was of opinion that the animal had been in that condition for several weeks.

Mr. John Taylor, veterinary surgeon, and one of the veterinary inspectors for the County of Midlothian, said he had also examined the cow with Mr. Riddoch, and he confirmed the latter's opinion that the animal was tuberculous. The whole trouble about this matter was that dairymen did not appreciate the fact that they had simply to notify a police constable or a veterinary inspector when they noticed anything suspicious about a cow's udder. A tuberculous udder might give milk that was perfectly clear, and the tubercular qualities might not be detected until it was put under the microscope, but if dairymen would but warn the proper authority about any suspicious development of the udder, there would be no prosecution. It was the failure to notify which constituted the offence.

The accused, in the witness-box, said that the cow had been milking very heavily, and there did not seem to be anything to indicate that she was suffering from tuberculosis. He thought she was merely suffering from a fleshy udder. He was satisfied now that the cow had been tuberculous.

It was pointed out that this was the first case of the kind in the county, and the Bench made the fine one of £2, with the alternative of 20 days' imprisonment. The maximum penalty is £20.—*N.B.A.*

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.		Out-breaks	Slaugh-tered.*
	(a)		(a)		(b)		(b)		(b)	(a)	
GR. BRITAIN.											
Week ended June 13	12	13			5	26	31	61		121	1074
Corresponding week in	1913 ...	13	15		2	5	61	126	1	65	772
	1912 ...	10	12		2	3	34	67		67	1172
	1911 ...	15	30		4	4				76	1006
Total for 24 weeks, 1914	413	440	11	74	47	114	1330	2397	145	2909	20223
Corresponding period in	1913 ...	306	330		81	231	1594	3265	121	1116	16095
	1912 ...	475	531		79	162	2027	4511	162	1637	21152
	1911 ...	446	557	1	18	100	261		302	1216	13386

(a) Confirmed. (b) Reported by Local Authorities.
Board of Agriculture and Fisheries, June 16, 1914.

† Counties affected, animals attacked: London 25.
Middlesex 1.

IRELAND.		Outbreaks									
Week ended June 13		...	...	...	...	...	...	...	...	...	...
Corresponding Week in		1913 ...	...	...	...	...	...	...	...	...	...
		1912 ...	...	...	...	...	...	...	...	...	...
		1911 ...	...	...	...	...	...	...	...	...	...
Total for 24 weeks, 1914		1	1	75	953	...	...	47	333	113	579
Corresponding period in	1913 ...	...	...	...	...	...	...	90	295	80	480
	1912 ...	2	2	...	...	...	...	41	253	128	1202
	1911 ...	5	6	...	...	2	3	41	240	52	910

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, June 15, 1914
NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

Congress of the Royal Sanitary Institute.

The preliminary programme of the twenty-ninth Congress, to be held at Blackpool, from July 6th to 11th has been issued.

The Conference of Veterinary Inspectors will be held on Wednesday, July 7th, at the Secondary School.

The subjects for discussion will be:—

"Some Metazoon Parasites met with in Food Inspection and their relation to Public Health," to be opened by A. W. Noel Pillers, F.R.C.V.S., Veterinary Inspector, Liverpool.

"The Working of the Tuberculosis Public Health Regulations of the Local Government Board and Board of Agriculture," by J. D. Whitehead, F.R.C.V.S.

President. J. W. BRITTLEBANK, M.R.C.V.S., D.V.S.M., Veterinary Inspector, Manchester.

Vice-Presidents. ARTHUR BREAKELL, M.R.C.V.S.; JAMES R. RIGBY, M.R.C.V.S.; J. SHARE-JONES, M.Sc., F.R.C.V.S.; T. WOODS, M.R.C.V.S.

Local Secretaries. G. HUTCHINSON, M.R.C.V.S., Poulton le Fylde; T. WALKER, M.R.C.V.S., Whitegate Drive, Blackpool.

Recording Secretary. J. A. DIXON, M.R.C.V.S., Vety. Inspector, Leeds.

This Conference is open to members of the veterinary profession.

R.S.P.C.A. Prosecution at Bourne—Dismissed

At the Bourne (Lincs.) Police Court, on Thursday May 14th, before Mr. R. A. Gardner, J.P. (in the chair), and other Justices, James Bluff, drayman, of Stamford, was charged with cruelty to a horse at Market Deeping, on April 2nd; and Richard Dunn Dawson, manager of Messrs. Phillips Brewery, Stamford, was summoned for causing the animal to be worked whilst in an unfit state. Mr. S. G. Polhill, of London, represented the Society, and Mr. E. Dalton, of Stamford, defended.

Both defendants pleaded not guilty.

Mr. Dalton stated that it might save the time of the court if he stated what the defence would be. The mare started on its journey in a perfectly sound condition, but on its return journey it was suddenly attacked with a complaint called laminitis.

All the witnesses were ordered out of court.

Mr. Polhill, in opening the case, said the animal belonged to Mr. Phillips, brewer, of Stamford. On the date in question the mare was stopped by the Society's inspector as it was going very lame. The drayman frankly admitted that the mare was lame, and that it had been so for some time. Mr. Townson, veterinary surgeon, of Market Deeping, was deputed to examine the animal, and he pronounced that the lameness was of long standing. The next day the inspector went to Stamford and Mr. Dawson admitted that he was responsible for the horse being at work, but he would not admit that the horse had been previously lame. Mr. Dawson subsequently suggested to the inspector that this was a temporary lameness, that it left the premises all right in the morning, and that it became lame on its return journey. Proceeding, Mr. Polhill said that it was thought advisable to test this case, and after waiting some three weeks the Society sent down an expert veterinary surgeon from London, and the opinion of the expert and that of Mr. Townson agreed. They would submit that the horse had been lame for some considerable time: that it was not fit to work on the road, and it was extremely doubtful whether it would be able to work on the land. Mr. Polhill said the issue the magistrate would have to consider was whether the lameness was of long-standing or whether as his friend had suggested it was of a tem-

porary nature. He submitted that the weight of evidence would be in favour of the prosecution.

Inspector Small, R.S.P.C.A., stationed in the Bourne district, deposed that he stopped the defendant Bluff at Market Deeping. He spoke to him about the mare going lame, and Bluff replied, "Yes, I know it is going very lame. It has been like it for some time, and the manager knows about it. I have told him several times." Witness said the animal was suffering from ringbone, and one foot was contracted. The animal showed pain, and in his opinion it was unfit for work. Witness said to Bluff, "This is a shocking case of cruelty," and Bluff said, "Yes, it is shocking. I have been ashamed to bring it out." Witness advised the mare not to be worked any further, and it was taken to the stable of an inn at Deeping, and the same day the animal was examined by Mr. Townson. Inspector Small said that the next day he saw the manager, who said that he did not see the horse before it went out, but had seen it in the stables. Witness said in the presence of Bluff to Mr. Dawson that Bluff had said that he had told him of the mare going lame, and the manager denied this. The manager said the horse would not be worked any more.

Mr. Polhill: Have you seen the mare on subsequent dates?—Yes, on the 21st and 24th April, and it was in the same condition exactly.

The Chairman: Have you seen it since April 24th?—No.

Mr. Dalton: There has been no intention to work the horse since that date. Did you make enquiries as to the other horses at the establishment?—No.

Inspector Decann, stationed at Market Deeping, corroborated the evidence given by the previous witness. He said the mare was very lame indeed.

Mr. Polhill: Have you seen this horse before?—Yes, and I noticed it was lame, but did not stop it.

Did you mention that incident to the defendant Bluff?—Yes, and Bluff said that he expected that I should have stopped him on that date.

Mr. Dalton: If you had considered that the mare should not have been worked would you not have called Bluff's attention to it?—I scarcely had a chance of forming an opinion at the time. It was only a casual observation.

There was nothing flagrant about it?—I thought it was, but still I thought it was of a temporary nature.

William Kellett Townson, veterinary surgeon, of Market Deeping, stated that on the 2nd of April he examined the mare in question. He found the animal very lame. She had a deformed hoof, also contracted tendons, with an over-shot fetlock joint and a diseased pastern, associated with ringbone and sidebone. The animal was in good condition. He further stated that the animal was not fit for work: that in his opinion the lameness was of long-standing: that the mare will not be fit for work on the road, nor, in his opinion, on the land.

Mr. Dalton (quoting from a veterinary authority): "Laminitis is a disease which appears suddenly." Do you agree that a horse might be perfectly sound when starting on its journey, but have an attack of this disease whilst on its journey?

Mr. Townson: Yes, and an attack will occur in the stable.

Did you take the temperature of the animal?—No. There was nothing abnormal about the temperature; and the condition of the hoof was not conducive to laminitis.

What percentage of horses suffer from ringbone?—I don't know.

Am I right in saying that 75 per cent. of the horses suffer from it?—I should not think so.

Mr. Polhill: If the contention of my friend is right

that the mare was suffering from an attack of laminitis, which comes on suddenly, would you expect the lameness to remain permanently or would the animal recover?

Mr. Townson: I should certainly expect the mare to recover.

Alexander Piesse, M.R.C.V.S., of London, deposed that he examined the mare at Stamford some three weeks after it was stopped at Market Deeping. The animal, which was a bay mare, was well nourished. He found that the mare was lame, the result of extensive sidebone, the cartilage affected was much affected and inflamed, and the inflammation had extended. There was also a bony deposit on the pastern joint. The hoof was also somewhat malformed. In his opinion the animal was unfit for work. He was quite sure that it would never be fit for work on the road again, but with treatment it might possibly be able to work on the land.

Mr. Polhill: Did you see any signs of laminitis?

Mr. Piesse: No, but it might have had a transient attack: it certainly had not had an attack of any duration. There were no signs that an attack had existed.

Can you form any opinion as to how long the mare had been lame?—I should say that it had not been a sound horse for three months.

Mr. Dalton: When you say that the horse had not been sound for three months do you mean that it had not been in a fit condition for work during that time?—Yes.

Would any ordinary horseman notice that?—No, but he ought to have done in a few days.

Do you think it was possible that a veterinary surgeon could have examined the horse without noticing it?—No.

And supposing a manager did not notice it?—Well, I should say that he has not a keen observation.

I am calling two veterinary surgeons who will say that the mare was suffering from laminitis?—It might have been when they examined it.

Is it a disease that appears suddenly?—Yes.

Mr. Polhill: Would not a horse that had been suffering from laminitis for some time show an unmistakeable alteration of the structure of the foot?

Mr. Piesse: Yes, but it was obvious in this case that it was lame.

THE DEFENCE.

Mr. Dalton said that this mare was perfectly sound when it left the stables at Stamford. He proposed calling two veterinary surgeons who would state that the horse was suffering from laminitis when they examined it, and he hoped to establish this fact and so get the summons dismissed. He said that his friend had got to satisfy the Bench that the defendants had guilty knowledge of working the mare whilst in an unfit state, and also that there was intentional cruelty. No one who knew the firm that he represented could say that they worked horses whilst in an unfit condition. When the mare was in the stable there were no symptoms of lameness, and if there had been there was no necessity to work this horse, for there were others in the stable, and if not they could have hired a horse, which this firm was in the habit of doing when necessary. The defendant Bluff was deputed to take a load to Spalding Common, a distance of about 17 miles. The horse was baited, and upon the return journey it went lame, and the animal was stopped by the Inspector at Market Deeping.

Richard Dunn Dawson deposed that the mare was bought some four years ago at Morton near Bourne, and a certificate of soundness was given at the time of the purchase. The animal had never been lame, and he

had never seen her in pain. Mr. Towell, of Stamford, veterinary surgeon, was specially retained by the brewery firm to look after the horses, and the men employed by the firm had strict instructions that if at any time there was anything wrong with the horses to immediately call in the veterinary. Witness stated that on the day in question he received a telegram from the defendant Bluff that the horse had been stopped by Inspector Small at Deeping on account of lameness, and witness said that he also communicated with Mr. Holmes, veterinary surgeon, of Bourne, to come to Stamford and examine the horse the next day in conjunction with Mr. Towell. The animal was stated to be suffering from laminitis, and it was treated for such complaint.

Mr. Polhill: During the time the animal was developing a bony enlargement did not she go lame?—No.

Do you agree that where a horse is in pain that it must go lame?—Not always.

Do you really mean to say that during the four years you have had the horse that you have never seen it go lame?—I have never seen it go lame. The horse at times had a peculiar gait, but it was never lame.

Although you knew that the animal was developing sidebone, did you not call in a veterinary?—It never went lame.

Has the condition of the mare altered since the 3rd of April?—Gradually improved.

The horse is too lame to bring for the Magistrate to inspect?—It could not have walked.

In answer to Mr. Dalton, witness said the sidebone had never incapacitated the horse.

James Bluff stated that he baited the mare for two hours, and when he commenced on the return journey he noticed that it had a slight stiffness, which was not unusual with horses when they had gone a long journey. However, when within three or four miles of Deeping he noticed the mare went a little lame. When he got to Deeping he saw the inspectors, and the mare was stopped and examined, and he was told that it must not travel any further and it was put up at an inn. Inspector Small said it was a very bad case, and advised him not to go any further.

In reply to Mr. Dalton, witness said the horse had on the previous day been to Barnack and Market Deeping respectively. If he had noticed anything the matter with the mare in the morning he would have refused to take it on the journey.

Mr. Polhill: How long have you driven this horse?—For several months.

At times the animal has shown signs of lameness?—None whatever.

If the animal was not lame why did you speak to Mr. Dawson?—It was not exactly lame.

John Thomas Holmes, M.R.C.V.S., of Bourne, stated that he received a telegram from Stamford to go to Messrs. Phillips Brewery to examine a mare. The animal appeared to be suffering from considerable pain and distress. He took the temperature, which was 103°1, the pulse was 49, and when the mare walked a few yards it showed the characteristic gait of laminitis. The mare had ringbone, but that had nothing to do with the complaint from which it was suffering.

Mr. Dalton: The horse may be worked if it suffers from ringbone so long as it does not cause any pain?—That is my opinion.

Is it not quite an ordinary thing for horses to be suffering from ringbone?—Quite 70 per cent. do in this neighbourhood.

How could laminitis arise?—From several causes, one being chill.

If the animal had been suffering from ordinary acute lameness would there have been any constitutional dis-

order?—No, there would have been no rise in temperature.

Mr. Polhill: You examined the horse on the 3rd of April, and Mr. Townson on the 2nd April, and he says there were no signs of laminitis. Is it possible between the time you examined it and the time Mr. Townson examined it that laminitis might have supervened?—No doubt it supervened.

You don't dispute the existence of ringbone and sidebone?—No.

Have you seen the mare since the 3rd of April?—Last Friday.

What is its condition?—Still lame.

What from?—The effects of laminitis.

If the animal was suffering from laminitis on the 3rd of April must there not have been some structural alteration having taken place in its foot?—It depends entirely on the amount of the disease.

If the horse had ringbone and sidebone and is still lame three weeks after it was stopped by the inspector, is that not a strong indication that the lameness has a permanent cause and not a temporary cause like laminitis?—I don't agree.

During the course of examination Mr. Holmes protested that Mr. Polhill was making suggestions of things which did not exist. Mr. Polhill said he did not think Mr. Holmes need be uncivil. Mr. Holmes repudiated the suggestion of incivility. Considerable argument took place between Mr. Holmes and Mr. Polhill upon the relative terms of stiffness and lameness.

Mr. Polhill: Do you think the mare is fit to work on the road barring laminitis?—Yes I do.

Walter Bland Towell, M.R.C.V.S., Stamford, stated that he was retained by this brewery to attend to the horses when required. He said that when he examined the animal it showed signs of great pain, it moved with great difficulty, was very lame, and was suffering from laminitis. He always considered that the horse was workably sound.

Mr. Dalton: Do you consider that this is a typical case of laminitis?—Yes.

Mr. Polhill: Was the animal perfectly free on the 2nd of April?—Yes.

If the horse had been suffering from a long attack of laminitis and was still suffering on the 24th of April, would any structural alterations of the foot have been apparent to anyone who examined it?—To a certain extent, yes.

Mr. Polhill submitted to the Court that it was not for him to show that there was any intentional cruelty. What the Magistrates were concerned with was the point of fact whether the conduct of the defendants had caused the animal unnecessary pain or suffering. Intentional cruelty was a different thing to guilty knowledge, and the guilty knowledge which was required was not to show that the defendants actually knew that they were causing pain, but the guilty knowledge was the knowledge of the facts. No one was so blind as those who would not see. It was not a defence to say that they did not see it lame. On the grounds he would not say that the defendants had any guilty knowledge but it was a matter of want of care and want of thought, and not of intentional cruelty. It had never been suggested. He said that he could quote cases on the matter.

Mr. Dalton replied that the fact that the firm retained a veterinary surgeon showed that there was no want of care and thought, but showed that they had exercised more than ordinary precaution.

The Chairman, after the Court had deliberated in private, said the Bench were of the opinion that it was a proper case to be brought into Court, but there was an element of doubt in the matter and the case would be dismissed.

Cruelty Prosecution at Bury—Magisterial Comments.

At the Bury County Police Court, before Messrs. G. Mills, A. T. Porritt, Councillor W. Scholes and Dr. Crawshaw, on Thursday, June 11th, Barzillari Stead, carter, East Ordsall-lane, Salford, was summoned for cruelty to a horse by working it in an unfit state at Whitefield, on the 13th May, and Samuel R. Teggin, carrier, Eccles New Road, Weaste, Manchester, was summoned for permitting the horse to be worked.

Mr. T. R. Bertwistle prosecuted on behalf of the R.S.P.C.A., and Mr. C. H. Pickstone defended.

Mr. Bertwistle opened. He said the facts were very simple so far as the proof of the cruelty was concerned, but there were a number of outside incidents it would be necessary for him to mention. It appeared that P.C. Tomlinson, who on that day was acting sergeant, saw Stead in charge of a horse attached to a cart passing through Whitefield. Noticing the animal was very lame he stopped the carter and pointed out the horse was lame. Stead said, "Yes, it is a bit lame, and it goes worse when it has been standing." Tomlinson noticed that the leg was covered with grease, and asked why it had been put on. Defendant said, "Well, its tendons are a bit off." They knew that was a Lancashire expression that there was something wrong. When asked how long the horse had been like that defendant replied, "I cannot say." P.C. Bowness was present and saw Tomlinson examine the horse. The animal, which was in very fair condition, was lame on the near fore leg, and when the horse stood he lifted the limb to rest it. Tomlinson told the carter the animal was not fit to be worked, that he must take it out of the cart and take it home, and the defendant did so. Witness went on to Besses, where he met P.C. Griffiths, who also saw the horse. The matter was reported to Inspector Faulkner, R.S.P.C.A., who went down the following day to the owner's place and examined the horse in company with P.C. Bowness.

P.C. Tomlinson stated that the horse was lame on the near fore leg, which was very tender and very much inflamed. Stead said the horse had gone worse since it was shod the previous Thursday. In witness's opinion the lameness was caused by the tendons binding on an old splint.

Cross examined: If the horse was badly shod it would cause lameness.

Inspector Faulkner stated that he examined the horse and found there was inflamed condition of the tendons of the leg. There was ringbone deposit immediately above the coronet, and the inflamed condition extended from the ringbone into the foot. The lameness, which was exceptionally acute, was due to the complication of the tendons and the ringbone deposit. The horse walked lame on the soft ground, and could scarcely put his foot down. Defendant said he had a veterinary surgeon who attended there regularly, but he would not give his name. Witness said he should be there the following morning, and defendant made no objections. The next day he went with Mr. Wren and found the horse locked up. Mrs. Teggin told them that her husband had left instructions that no one was to see the horse. Mr. Wren left his card, and asked Mrs. Teggin to tell her husband to write if he definitely refused to allow the horse to be examined. Mr. Wren received a post-card as follows:—"Mr. Wood has seen my horse again to-day, and says it will be fit for work in a day or two. Now he has had the shoe off and the foot poulticed. If you wish to know anything further refer to my vet."

In reply to Mr. Pickstone, witness said from defendant's attitude and from the fact that he had a veterinary surgeon, witness also wanted to have one.

Mr. Pickstone said the defendant could not be compelled to allow the Society's veterinary surgeon to examine the horse. The constable was the only person who had power in the matter.

The Clerk (Colonel Hall) said in some towns when a horse was stopped the man in charge was taken into custody.

Inspector Thomas, R.S.P.C.A., said when he saw Mr. Wood, the defendant's veterinary surgeon, Mr. Wood stated that he had seen the horse, and it was doing all right. It was a case where the nails had been driven too tight, and were binding on the sensitive part of the foot. The shoe had been taken off, the foot poulticed, and the horse would be all right in a day or two.

The question was again raised as to Mr. Wood refusing to allow another veterinary surgeon to see the horse, and

Colonel Hall said Mr. Wood's action did not prove or disprove the defendant's guilt. He thought too much importance was being attached to the point.

Inspector Thomas, continuing his evidence, said when he asked if he would allow another veterinary surgeon to see the horse he replied, "Certainly not." Mr. Wood then told him that it was the nails in the shoe that had caused the lameness.

Mr. A. B. Wren, veterinary surgeon, Bury, also gave evidence. In cross-examination he said if the horse was suffering from ringbone deposit it would still be there, and if the tendons were strained there would still be some symptoms. The treatment by Mr. Wood would remove the inflammation, and the horse would go all right for a time.

This concluded the case for the prosecution.

The defendant Stead said he had been employed by Teggin ten years, and had had charge of the horse about seven weeks before it was stopped. The horse was not lame when he took it out, but it went lame after dinner-time. The night before the horse got his leg over the halter-chain and "scarred" it. Witness rubbed some oil on the leg.

Ernest Edward Wood, M.R.C.V.S., Manchester, veterinary surgeon to the County Council and the Eccles Corporation, said when he saw the horse it was certainly very lame, and on the shoe being taken off he found that the cause was that three nails in the shoe were pressing on the sensitive structure of the foot. The shoe was taken off and matter was found in one of the nail holes. He could not find any ring bone or splint. It was by his instructions that Teggin refused to allow anyone to see the horse. He took the responsibility for that.

Cross-examined: The reason he refused to have another veterinary surgeon was because of something that happened in another case.

Mr. Bertwistle asked whether it would not have been better if witness had had his opinion backed up by another professional man.

Witness: As a rule veterinary surgeons don't back each other up like doctors. I can tell you that.

Col. Hall: Doctors don't always back each other up.

Mr. Pickstone: Neither do lawyers.

The Clerk pointed out that the action of the witness in refusing to allow another veterinary surgeon to see the horse might lead the magistrates to ignore the professional evidence and rely on the other. They could also adjourn the case and have an independent professional man to make an examination to see whether there was any ring bone or splint.

Wilkinson Guildhall, shoeing smith, said the horse was shod on the Friday before the Wednesday that it was stopped. Teggin stated he knew nothing of the lameness until after the horse was stopped.

Mr. Pickstone asked whether the magistrates intended to adjourn the case in order to have an independent examination made.

The magistrates deliberated in private for an hour and a half.

On returning into court the Clerk (Colonel Hall) announced that the case was adjourned for the horse to be examined by an independent veterinary surgeon to ascertain whether it was suffering from ring bone or splint or both, and if found to be so suffering then the court would deal with the case. The cost of this examination and also the cost of the prosecution vets. having an opportunity to examine the horse to be borne by the defendant. [The case was adjourned until Saturday].

On Saturday, June 13, Col. Hall, county magistrate's clerk at Bury, was called as a witness. He said that acting on the Magistrates' instructions, he met Mr. Dixon, veterinary surgeon, of Whitefield, on Friday morning. On arriving at defendant's place, witness told Teggin he was there on behalf of the justices to see the examination properly made. He handed to defendant and Mr. Dixon the following written instructions addressed to the latter:—"The justices require you to examine the near fore leg of this horse, and be in a position to say whether it is suffering from ringbone or splint or either of the two." The report stated:—

"I find there is splint on the inside of the shin bone on the near fore leg. About three inches from the top of the shin bone there is also ringbone. (Signed) J. Featherstone Dixon."

Mr. Dixon gave evidence, and said when at defendant's place he had the horse brought out. He wanted it moved on some stones, but Teggin said "Don't." He examined the horse and found both splint and ringbone.

Cross-examined: The horse walked lame. The lameness was due to the splint and ringbone. The horse had also sidebones very pronounced. As to the lameness, he could not differentiate between the splint and the ringbone, and the animal flinched on both. He had not seen the previous evidence. He had been kept absolutely in the dark. If the horse had been lamed through shoeing the lameness would not have continued a month. The horse was in pain. It flinched when the limb was touched, and gave way when walking. As to the splint, it could be seen. One could see immediately that the two legs were entirely different.

Mr. Pickstone submitted that in order to convict the Bench had to be satisfied that the employer personally knew that the horse was not in a fit state to be worked, and Mr. Teggin had stated that he had no previous knowledge.

The Bench retired to consider their decision. As Col. Hall had been a witness in the case, Mr. W. Smith acted as clerk. When the magistrates returned into court, Mr. George Mills (Chairman of the Bench) read their decision:—

"The Court finds this horse was on and prior to the 13th May suffering from lameness caused by a splint on the inside of the near fore leg and ringbone on the same limb, and that on the 13th May it was being worked by the defendant Stead and caused to be worked by the defendant Teggin in such a manner as by this lameness (of which each of the defendants was aware) to cause it unnecessary pain and suffering. The Court is of opinion the defendant and his veterinary surgeon deliberately placed obstacles in the way of the prosecution with the fixed purpose of hiding from or misleading the Court as to the facts, and in this regard it considers the veterinary surgeon acted most improperly, and badly advised his client.

With regard to the evidence of Veterinary Surgeon Wood, the court feels it cannot speak too strongly. Such evidence can only be explained in one of two ways:

- (a) that he is grossly incompetent;
- (b) that he was guilty of the greatest negligence in

his examination of the horse; which of these be the correct explanation witness is best able to judge.

The court is further strongly of opinion steps should be taken by the Council of the Royal College of Veterinary Surgeons towards inquiring into the circumstances of this case. It is to be regretted that it should be possible for evidence to be adduced of such a character as has been given in this case by Veterinary Surgeon Wood."

The court also said that they considered this an extremely bad case and imposed the following conditions: £10 as a fine and £18 costs on defendant Tegg, or in default of distress three months' imprisonment; 5s. as a fine and costs 12s. 6d. on defendant Stead, or in default of distress fourteen days' imprisonment. *Bury Guardian*

THANKS TO ELECTORS.

Dear Sir,

Permit me space thank most sincerely those gentlemen who recorded votes in my favour. Although insufficient to secure my return on this occasion, I hope in the future to be successful.—Yours very faithfully,

THEO. C. TOOPE.

Dover, June 15.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, June 16.

REGULAR FORCES. ARMY VETERINARY CORPS.

Lieut. A. Crapp to be Capt. Dated June 14.

Major A. W. Mason resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform. Dated June 17.

The following officers Army Veterinary Corps (T.F.) Welsh Division, have qualified for promotion to the rank of Captain at the recent examinations in B 2, 3, and 16:—

Lieut. R. D. Williams, Aberystwyth.

Lieut. H. L. Anthony, Tredegar.

Lieut. J. Campbell Hill, Llanelly.

Personal.

FOREMAN—MIDDLEHURST.—On June 10th, at Bayswater, Richard J. Foreman, M.R.C.V.S., son of the late William Foreman, M.D., of Wigan, Lancashire, to Cecelia, daughter of the late Henry Middlehurst, M.R.C.V.S., of Liverpool.

PAINE—BULL.—At the Presbyterian Church, East London, South Africa, on Saturday, May 16th, 1914, Florence Bull, of Bayswater, London, to Richard Paine, F.R.C.V.S., of Umtata, Tembuland.

OBITUARY

EDWARD JAMES MELLET, M.R.C.V.S., Henley-on-Thames. Graduated, Lond: Jan. 1882.

Mr. Mellett died on June 5th from acute croupous pneumonia. Aged 56.

WILLIAM MAYNARD, M.R.C.V.S., Romsey, Hants.

Lond: Dec., 1867.

Death occurred on Saturday, June 13, from syncope, following heart trouble, at the age of 70.

SPICER.—On the 13th June, at Crabwood, Oxted, Arnold Ralph, only son of Arnold and Flora Spicer, aged 10 years. The funeral took place on Tuesday, June 16, at Oxted.

CORRESPONDENCE.

[The following items were unavoidably held over last week, and several others are held over this week.]

THE ANNUAL "FIASCO."

Sir,

Ta! ta!—we're very much obliged to you, but we don't want to be bothered. Such, sir, is the blessing conferred on the gentlemen of the Council for the trouble they take in conducting the affairs of the profession, but as you justly remark, "it is a disgrace," and no alteration of date will "shake off the apathy." What a compliment to the Council! 22 members all told (including the 24 Councilmen!) Is not this a farce for a G.A.M.? I would suggest that any meeting which does not represent 5 per cent. of the whole of the profession should be adjourned *sine die*, for wherein is the use of 24 Councilmen agreeing to what they have done in the past year?—of course they agree. The fact is that a vast number of our profession are so selfish that they will not sacrifice a day's earnings even to pay their respects to those who work for them, on the one opportunity that offers itself. Where is the *esprit de corps*? Oh for a controversial fighting spirit of a Price, Dollar, M'Fadyean, or Hunting of 30 years ago! Opposition is good, not to stir up strife, but to bring forward beneficent ideas for the common weal. What a shameful mistake to take all and give nothing.—Yours faithfully,

H. D.

THE ANNUAL MEETING.

Sir,

In your leading article of last week you find fault with the members of the profession for not attending the annual meeting of the R.C.V.S. I beg to inform you that I attended the meeting and my name was put down in the book, but my name is not down in *The Veterinary Record*.—Yours truly,

GRAHAM REES-MOGG, Vet.-Capt.

Hyde Park Barracks, S.W.

June 9th.

[We regret that Capt. Rees-Mogg's name does not appear in the list of those present. Possibly he may have signed after our reporter had taken out the list.]

NASAL CATARRH.

Sir,

Permit me to ask the many readers of *The Veterinary Record* advice with respect to the treatment of the above complaint in a Pekingese. Nearly everything has been tried without success for 12 months. Perhaps some of our canine specialists would be able to suggest a suitable remedy, and its method of administration.—Yours faithfully,

"PEKIN."

June 10.

[Replies may be sent c/o *The Veterinary Record* if desired].

A DISPUTED ACCOUNT.

Sir,

In your issue of 6th inst., I notice you have coupled my name with the "Disputed account," which you report. I beg to say that I have nothing to do with that case, and if you will look up the reports in the daily papers you will find the plaintiff was Mr. Edward Sewell with whom I have no business connection.

Please see that this is corrected in your next number—with an apology.—Yours faithfully,

WILLIAM SEWELL, F.R.C.V.S.

51a Elizabeth St., Eaton Square, S.W.

June 16.

[We insert Mr. William Sewell's disclaimer with pleasure. The name as we printed it was given in the newspaper from which the report was taken, and was passed by our proof reader. The error was noticed, but unfortunately too late to make the correction].

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1355

JUNE 27, 1914.

VOL. XXVI.

BOARD OF AGRICULTURE—ANNUAL REPORT OF THE CHIEF VETERINARY OFFICER FOR THE YEAR 1913.

Two subjects call for special mention in that portion of the Board of Agriculture's report which deals with unscheduled disease, viz., swine erysipelas and epizootic abortion.

Swine erysipelas, for the first time, forms the subject of a special article. In 1913, records were kept of such outbreaks as came under the notice of the Board's veterinary officers, and thus we at last have some definite information as to the prevalence of the disease. These records, however, were collected solely from outbreaks which were believed or suspected to be swine fever, and it is quite certain that they are far from representing the total amount of disease in the kingdom. But even taken as they stand, they reveal a sufficiently serious state of affairs. They show that the disease exists in at least 59 administrative counties in Great Britain, and that its incidence includes such geographical extremes as Cardigan and Norfolk in one direction, and Cornwall and the Orkneys in another. In all, 1795 herds were found infected. In very many cases only one pig died, but so many of the herds were very small that this might be rather misleading. Again, the fact that all restrictions ceased directly the absence of swine fever was ascertained precludes any accurate mortality returns. But the mortality is certainly not a low one, and as the chief officer points out, the losses "are not to be reckoned by the death rate alone." Fat pigs—though by no means the only animals affected, as has been said—are the ones most frequently attacked, but even when they recover, the loss of condition is serious economically. Now and then, also, the disease assumes an exceptionally severe form in certain districts, as in the well-known Chatteris outbreak of 1905. And when we remember that many cases are recognisable by owners as not swine fever, and therefore are never reported, it is clear that the disease is now a very important one to us.

Restrictive measures are not likely to be of much use. The microbe lives as a saprophyte in the soil, hence "the affected pig is only one factor in the upkeep of the virus." Recognising this, the chief officer justly concludes that restrictions "would probably result in a maximum amount of incon-

venience to pig owners with the minimum amount of success." Instead of legislation, he advises preventive inoculation, which the Board has already been recommending to owners for some time. Two methods are applicable—one by an anti-serum, the other by a combination of anti-serum and pure bacillary culture. The first very speedily confers an immunity which only lasts for about ten days, and this method should be used when the disease has actually appeared in a herd.

The second method immunises for probably from six months to a year; and this should supplement the more transient first method. Of course, ordinary sanitary measures—especially with regard to the flooring—are also of importance. The chief officer hopes to be able to supply serum and vaccines, and evidently trusts them to control the disease.

With epizootic abortion, the outlook is beginning to be hopeful. A reliable diagnostic blood-test, which may, perhaps, become available to the practitioner but at present is only applicable in the laboratory, is now in the Board's hands. The results, so far, of artificial immunisation before pregnancy are described as "certainly very encouraging," but as each observation requires about nine months for its completion, the data available as yet are hardly sufficient to warrant a definite conclusion. It is hoped to present a statement within the next four months. Meanwhile, the Board has been considering the possibilities of legislation. Two methods have been proposed in conjunction with compulsory reporting. The first is to restrict the movement of recently aborted animals and those suspected of being infected; the second, to restrict only those which have aborted. A modification of the second method is now on trial in Devonshire, but for too short a time to assess the results. Obviously the first plan is far preferable; and, now that the discovery of a reliable diagnostic test has removed the fear of detaining uninfected cows for long periods on suspicion, the time seems ripe for its adoption. The Chief Officer, however, prefers to wait till the value of preventive inoculation is definitely known before taking action. Preventive inoculation may obviate the necessity of legislation; if not, there is little doubt that legislation is near.

Enzootic ovine abortion is also touched upon—the recent discoveries regarding it, which we reviewed in this column not long ago, are briefly summarised.

Altogether the report (Cd. 7423), which can be obtained from Messrs. Wyman and Sons, Fetter Lane, E.C., for 2½d., is well worth study by every country practitioner.

TREATMENT OF FOALS—MORPHIA.

Mr. Jolliffe in his article on the death of his foal, has raised some very interesting questions of general interest, and since he asks for remarks on the case, I think his queries may be answered, according to my experience, in the following way:

1. The foal was probably to some extent killed by kindness.

2. A foal should not be forcibly fed during its first 24 hours. I should not worry too much about a foal not sucking for even two days, and in many cases the stomach of the newly-born is better without food. Forcible feeding so far as actual "drenching" is concerned is never advisable.

A foal may, however, very often be induced to suck sugared, warm milk out of a bottle provided

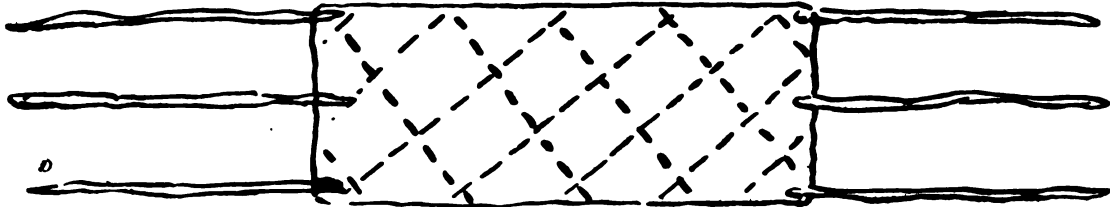
of being a dry application. With two bags, one on the animal, and one in the oven, hot applications may be continued indefinitely. The salt is best retained in its place by the bag being sewn across in diagonals.

This method I practised and recommended in *The Veterinary Journal* twenty years ago.

It frequently happens in treating foals that a stimulant is found to be necessary.

Unless absolutely indicated, I believe stimulants are better not given. When necessary, I have found the one most effective, best tolerated and most liked by foals is port wine mixed with an equal quantity of warm water, with sugar. This mixture is often greedily sucked out of the bottle, after a first acquaintance with it.

H. C. WILKIE, F.R.C.V.S., F.Z.S.



with some sort of teat (to prevent too great a flow) when it altogether declines to suck the mare.

This is, I think, in nearly all cases due to an acid condition of the mare's milk after the disappearance of the colostrum, and this condition I have found may be remedied by giving the mare one or two doses of bicarbonate of soda in ounce doses, and milking her well out at least five or six times a day.

3. I have found refusal to suck not uncommon in foals, newly born, and nearly always due to the state of the mare.

4. I believe "drenching" is a very undesirable procedure in newly born foals, and when efforts are made to induce a foal to suck out of a bottle, the milk should be prevented from running freely and the head should never be pushed high.

5. The condition of the mare mentioned and the loss of colostrum seems to account for the intestinal derangement of the foal.

I doubt, however, if the loss of colostrum in itself is of the importance frequently attributed to it. The flush of milk and its temporarily abnormal state probably account more directly for its indigestibility.

6. Cows milk undiluted and somewhat rich in butter fat usually acts as a laxative in newly-born foals. A very undesirable one, however, as it is not well tolerated.

7. It is doubtful if half a grain of morphia would kill a strong foal, but might be the "last straw" for a weak one. I believe morphia in any effective doses at all is injurious to the newly born. Abdominal pain in such animals is best controlled by warm rectal injections, massage and the external application of heat.

I think hot fomentations are undesirable. Salt retains heat very well, and has the great advantage

BRAIN TUMOURS IN TWO MARES.

(CHOLESTEATOMATA VASCULOSA).

By JOHN LINDSAY, M.D., Glasgow Veterinary College.

The first of these two cases occurred in the practice of Mr. Duncan McFarlane, M.R.C.V.S., Doune, and Mr. Harold McD. Paul, his assistant, sent the specimen to the Glasgow Veterinary College for examination, along with the following clinical notes.

About the end of November, 1911, we were called to examine a 14 years old Clydesdale mare in a horse-box at Doune Station. We found her down and unable to rise. Temp. 102, pulse 50, weak and thin, mucous membranes practically normal, eye dull and sleepy looking.

Diagnosis. Probably a slight injury to the back from falling in the horse-box.

Treatment. Stimulating liniment to back, and stimulant draught given, mare rugged and left in the box for the night.

Next morning she was able to walk to our infirmary, a distance of 200 yards, and on the following morning she was delivered to her owner, and walked three miles home.

We heard no more about her until three weeks later, when we were asked to treat her for colic. Mr. McFarlane attended and found her badly pained, temperature 103, pulse 60, mucous membranes injected, respirations laboured, mare very restless, boring her head into the corner of the box, staggering when made to move, and apparently in great agony.

Diagnosis. Probably pressure on the brain due to a tumour.

Treatment. 3vii. ball given, and chloral 3j. Twelve nux vomica and ammon. carb. balls were sent, one to be given twice daily.

The mare fed well for a time but showed little signs of recovery; as, however, the owner was anxious to get another foal off her we still continued treatment. She was blistered over the poll and sacrum with ol. canthar., and kept on tonic balls one week and stimulant balls another, and under this treatment she seemed to improve a little. In February she went off her food, and as her teeth were not of the best we dressed them, but without beneficial result. She seemed incapable of prehension at this time, but if a bunch of hay was placed between her molars she would chew it, and then appear to go to sleep without swallowing it.

From this time until her death on 3rd March she was unable to go out of her box, and moved only after considerable persuasion. If backed she sat down. She could drink pretty well, and even made attempts at eating soft mash, but very little hay was partaken of. Although receiving six bottles of gruel per day she became very much emaciated, the muscles most wasted being those of the back and quarters. Emaciation, listlessness, drowsiness and staggering became more and more pronounced. Her boring turns appeared oftener and lasted longer—from 12 to 24 hours—and it was worthy of note that when boring she always carried a high head. Urination was most irregular, but the passage of the catheter had never to be resorted to. The temperature varied between 102 and 103, the pulse between 50 and 55. The mucous membranes were injected only when she was pained. Only at these times also was the respiration abnormal, being then laboured and the nostrils dilated.

She died, as already stated, on 3rd March, and on the following day a post mortem examination was made at the owner's request. The bowels and stomach appeared to be normal. The kidneys and liver appeared to be harder than normal, but were not cirrhotic. The spleen was normal. The heart valves were slightly thickened. The bladder was very much distended and dilated and contained two quarts of highly coloured urine. Great difficulty was experienced in removing the brain on account of its softness, and for that reason also the cerebellum could not be preserved. The cord appeared soft, and the spinal canal contained a reddish coloured fluid of the consistence of serum. Both eyes showed signs of approaching blindness.

The late Mr. David Constable, Inchtute, who had had the mare under observation at an earlier date, was communicated with and reported that "he had attended her at least six times, and came to the conclusion that there was pressure on the brain, possibly from a tumour. She presented a comatose condition, partial blindness, staggering gait, and occasionally colicky pains which continued for fully two days. Latterly the attacks were more frequent and more severe."

Pathological Report by Dr. Lindsay:—The specimen consisted of the cerebrum and mid-brain. It was soft and somewhat torn. In the longitudinal fissure lay unattached a tumour (A). From

subsequent investigation it appeared that this had originated in the left lateral ventricle. The rupture of the corpus callosum which permitted its escape probably occurred from handling after death and not during life. The tumour was ovoid in shape measuring $7 \times 4 \times 2.5$ centimetres, and it weighed 53 grammes. In consistence it was firm, almost hard. Externally it was dark bluish grey in colour. On section the cut surface was brownish with whitish granules, and showed numerous sparkling points when held obliquely to the light. When filter paper was pressed on the cut surface it became coated with similar shining points. These were adherent crystals of cholesterol.

In the right lateral ventricle another tumour (B) was found of the same shape, colour, consistence, and texture as (A) but rather smaller, its weight being 36 grammes. It lay in the body of the ventricle, not extending into the anterior or posterior cornua, and it was fixed only by exudate. On one side was the torn end of a small blood vessel about 1 mm. in diameter.

The surface of the cerebral hemispheres showed no evidence of compression, but the cavities of the lateral ventricles, except the cornua, were distended and shaped to the form of the tumours.

Microscopically, sections showed an external boundary zone or capsule of mature fibrous connective tissue, at places on the surface of which were deposits of fibrinous exudate. The interior was composed of a network of interlacing bundles of connective tissue fibres, intermingled with which were numerous trabeculae of homogeneous fibrinoid material. Everywhere the tissue was permeated with small round cells, and on the surface of the fibrous strands next the interspaces were many cells which were either irregularly disposed endothelial cells or young fibroblasts. There were few formed blood vessels, but many of the interspaces of the network were occupied by altered blood corpuscles and fibrin. Embedded everywhere in the tissue were clusters of granular masses of pigment, variable in size, and ranging in tint from pale yellow to dark brown. Cholesterol, extracted by ether, amounted approximately to 20 per cent. by weight of the dried tumour substance. There was no calcification.

A second case occurred in the practice of Mr. James Macfarlane, M.R.C.V.S., West Nile Street, Glasgow, who also sent the specimen to the Glasgow Veterinary College, and supplied the following clinical data.

The subject was an Irish-bred mare, aged nine years. First signs of illness, taking the form of a disinclination to go forward, appeared three weeks before the final development. On this later occasion the mare was out at her work when she refused to go, and lay down. A float was sent for and every means was tried to get her to enter it, but she refused, and it was decided to walk her home. This was done, she following the float. A dose of physic was given and she was allowed to stand in the stable for three days. Thereafter she was sent out to work again and did well for a few days. Kept in one morning, as she was not feeding well,

she later in the same day became very dull and disinclined to move.

When examined by the veterinary surgeon she was found standing with her head inclined to the right and boring forward against the wall. On being asked to go forward she did so with a bound. In this condition she remained until the following day, and while being removed from the stall to a loose box she fell. The mare was now completely blind, and seemed to bore more than ever. Gradually getting worse she was destroyed on the following morning.

The mare came into the service of the firm, Messrs. Wordie and Co., only two months before the appearance of the first symptoms of illness. All the owners, in whose possession she was known to have been previously, were written to, and replied that they never knew her to have a day's illness during the time they had her.

The treatment followed consisted of the administration of large doses of sedatives along with full doses of Pot. iodide and iodine.

Pathological report by Dr. Lindsay. When received by me the brain had been sliced and the tumour lay free. It was rounded in form, softer than those in the first case, and smaller. It weighed 14.6 grammes. Microscopically the texture was somewhat open, there being a framework of homogeneous, or faintly fibrillated tissue, with spindle shaped cells embedded in it, mainly, if not entirely, mature fibrous connective tissue. Enclosed between or overlying the strands of this were cells, single or in masses, many of which, although varying in form, agreed in having much cytoplasm and large nuclei with delicate chromatin network, fibroblasts. Many others were small in size with very dark nuclei, or larger with deeply staining lobulated or fragmented nuclei, leucocytoid or plasma cells. Some of the interspaces between the trabeculae were incompletely lined by cells which appeared to be proliferated endothelium; and solid masses of such cells were frequent. There were many thick-walled vessels, most of which showed hyaline degeneration of the walls, the proliferated endothelium being surrounded by a homogeneous zone containing few or no nuclei. Scattered through the tumour were numerous granular masses of irregular size and shape, probably altered blood pigment. A few large, torn blood vessels hung from a part of the external surface. Cholesterolin, amounting to about 20 per cent. by weight of the dried tissue was extracted by ether.

The tumours in both cases are local overgrowths of the choroid plexus, and are classified as *cholesteatomata vasculosa*.

At the meeting of the Council of the Hunters' Improvement Society on June 11, it was unanimously resolved to nominate a delegate to represent the Society at the International Veterinary Congress, and the Secretary was instructed to write to the President, Sir Merrik Burrell, Bart., and ask him to represent them.

GOVERNMENT PUBLICATIONS.—Messrs. Wyman and Sons, Ltd., have published the following post free:—Bill: Vivisection Abolition, price 1½d.

ABSTRACTS FROM FOREIGN JOURNALS

NARCOSIS BY CHLORAL HYDRATE IN HORSES.

Früs, a veterinary surgeon in Copenhagen, has published (*Maanedskrift for Dyrtaeger*) an article upon this subject. In chloral hydrate, he says, veterinary medicine possesses a narcotic with incontestable advantages over chloroform, ether, and morphia; and it is surprising that it is not more used by veterinary surgeons.

All methods of using chlorol, however, have their disadvantages.

Eberlein, who introduced its use by the stomach, showed that this method produces an admirable total narcosis, and that chloral hydrate is very adaptable for use as a total narcotic in veterinary surgery, and in most cases suffices for the purpose alone, without any other drugs.

One question which is very important in the stomachal administration of chloral is the disinclination of horses to take the drug dissolved in their drinking water. The author has investigated this point in Prof. Eberlein's clinique in Berlin, and has collected records of 685 horses of very different breeds and ages. The ages varied from foals of seven months to horses of twenty years.

A so-called "time of preparation" preceded the administration of chloral per os. This period lasted 24 hours in summer and 48 hours in winter. During it the horses received only half rations; and on the day of operation they received nothing, *especially* no drinking water.

The chloral must be *freshly dissolved* in a little water, and is then given to the horse in half a bucket of water.

The dose varies (in accordance with the breed, size of the horse, duration of the operation, and time of the year) from 20 to 70 grammes (=roughly from 5 drachms to nearly 2½ oz.), and averages 40 grammes (=about 1½ oz.)

If the horse dislikes the draught, various courses may be adopted. Often the horse only drinks when he is standing in his accustomed place. Many horses take the chloral better if some bran or sugar is added to the drinking water. If the horse absolutely refuses to take the chloral, it may be administered by the drenching bottle or given in the form of a ball.

If it is desired to shorten the period of preparation, small doses of salines may be given.

The author's records show that, of the 685 horses, 503 (=73.4 per cent.) took the chloral without difficulty, and 105 horses (=15.3 per cent.) took it after bran had been added. Therefore altogether 608 horses (=88.8 per cent.) took the chloral in the drinking water.

In 74 cases the chloral was given as a ball, and in two cases as an electuary. One horse took almost the whole dose in the drinking water and then received a small chloral clyster. Of 74 horses which would not take the chloral in the drinking water, 22 were not prepared, 7 had been deprived

of water for 12 hours, 1 for 20 hours, 30 for 24 hours, 7 for 48 hours, and 7 for 72 hours.

Deducting the 22 unprepared horses, the number of those to which the chloral had to be given as a ball remains 52, thus equalling only 7.6 per cent. of the 685 horses.

In general, well-bred horses refused chloral longer than heavy and coarser ones. Within the same breed, however, individual peculiarities were manifest.

Often the method is successful even after imperfect preparation. But as a general rule the horse should be deprived of water at least 24 hours before offering the chloral.—*Berliner Tier. Woch.*

W. R. C.

CENTRAL VETERINARY SOCIETY.

[NATIONAL V.M.A. SOUTHERN BRANCH.]

The usual monthly meeting was held at 10 Red Lion Square, W.C., on Thursday, June 4th. Prof. G. H. Wooldridge, President, in the chair. The following Fellows signed the attendance book: Messrs. J. Rowe, J. B. Buxton, G. Gordon, B. Gorton, R. Bennett, N. Almond, G. H. Livesey, H. D. Jones, R. Eaglesham, E. L. Stroud, W. N. Thompson, W. D. Halfhead, T. S. Price, Capt. G. Rees-Mogg, G. D. Martin, M. Cahill, W. R. Clarke, W. Perryman, W. Willis, F. J. Taylor, S. H. Slocock, S. L. Slocock, and Hugh A. MacCormack, Hon. Sec.

On the motion of Mr. E. L. Stroud, seconded by Mr. T. S. Price, the minutes of the last meeting were taken as read, and signed.

CORRESPONDENCE.

The Hon. Sec. reported the receipt of letters and telegrams from Messrs. W. Shipley, J. C. Coleman, J. W. McIntosh, and W. S. Mulvey regretting inability to attend.

He had received two circulars from Mr. Toope, relating to the scale of fees which should be adopted by the National Veterinary Medical Association. Also, that Major Holmes, D.Sc., had forwarded two memoirs of the Department of Agriculture in India, relating to (1) Curative treatment of hæmorrhagic septicæmia by administration of iodine, and other notes on chemotherapy in rinderpest and hæmorrhagic septicæmia; (2) Vitality of hæmorrhagic septicæmia organisms outside the body.

On the motion of Mr. T. S. Price, seconded by Mr. N. Almond, consideration of the subject matter of Mr. Toope's communications was deferred until the next meeting, in order that copies might be obtained and sent to Fellows.

On the motion of Capt. G. Rees-Mogg, seconded by Mr. T. S. Price, resolved that the thanks of the Society be conveyed to Major Holmes for his communication.

MORBID SPECIMENS.

Mr. S. L. SLOCOCK introduced a specimen illustrating a fracture of the basi-occiput of a pony. The pony was in a field with some horses, and when seen at 4.30 p.m. was all right. The speaker saw the animal at 8.30 p.m. of the same day, and it was then suffering from complete paralysis. The holes seen in the specimens somewhat suggested that made by a spent or ricocheted bullet. There was no history in the case. No one had seen what had happened, there were no rifle ranges in the neighbourhood, and no bullet was found.

The President, in submitting a specimen, remarked that in the absence of Mr. McIntosh he could not give

details of history. This case was that of a pet kitten, young half-Persian, three or four months old. Lately the kitten became listless and grew thin, but had been taking food fairly well until about Friday or Saturday last, when it began to "blow" and breathe hurriedly. Mr. McIntosh sent it to the speaker, who found it even more advanced in its illness than Mr. McIntosh had supposed; it was very thin and weak. He was able to feel certain enlarged lymphatic glands in the abdomen, and from the position of the lymphatics and their nature, he gathered it was a case of lymphadenitis probably of tubercular origin. At the speaker's suggestion Mr. McIntosh permitted the kitten to be destroyed by chloroform when the condition was found to be more extended than had been supposed. Both lungs were nearly solid. There were none of the symptoms of the moist cough as might have been expected in such cases. The mesenteric lymphatics were very considerably enlarged, especially in the angle formed at the junction of the ileum with the cæcum. There was not the usual characteristic caseation of tuberculous lymphatics, because the cat was too young for their formation. The bronchial lymphatics were also enlarged. The spleen was simply a mass of "hob-nail" lumps, the lungs were quite solid, the lymphatic glands in the mediastinum very enlarged. The spleen left no room for doubt, but micro-organisms were not numerous. It was unusual to find the disease so extensive in so young an animal. In older cats, cavities in the lungs were more frequent, and therefore there would be more coughing and more danger of spreading. In this case he regarded the lung lesion as secondary to the abdominal, on account of the general diffuse affection of both lungs.

Mr. G. H. LIVESEY observed that Professor Wooldridge's specimen was extremely interesting as showing how consumption in a cat might be developed in a very young animal. He thought there was a tendency to ignore the fact that consumption was so frequent, not only in the cat but in the dog. Of the two varieties of cat there was more consumption among the long-haired Persian than among the short-haired cats. Possibly the longer hair increased the liability to pick up dust, the cat infecting its alimentary canal from its fur, creating hair balls, etc., in its inside, which, in their passage through the intestine, were more likely to infect the mesenteric glands. To the speaker the most interesting symptom about the case submitted was the absence of coughing; the frequent absence of coughing was an interesting feature in all cases of consumption among cats or dogs when compared with similar stages of the disease in the human being, in whom consumption was usually associated with rather a short cough, particularly in the morning. Animals went through the malady without showing the persistent hacking cough occurring with human beings. In post-mortems he had found that animals emaciated and in poor condition, although they had not been condemned for any specific disease, were frequently riddled with consumption, yet they had never been noticed to cough in their lifetime.

Looking at the condition of the lungs and the organs generally in the specimen submitted, it was astonishing to think that an animal in that condition had never had a suffocating choking cough. From the colour of the lungs it could be seen that the circulation was almost wholly impeded. He had seen dogs riddled with consumption, but in one case he had in mind only once in three months illness was the dog heard to cough. He could not explain it. Whether coughing was more readily performed in human beings he could not say, he should not think so, as the coughing reflex was highly developed in cats and dogs. How the lungs of these small animals could be so intensely invaded by foreign organisms without being accompanied by the reflex act

of coughing and expectoration, required further explanation.

Mr. DUNLOP MARTIN called attention to a very severe case of tuberculosis in a cat. He had sent the viscera to Prof. Wooldridge for examination, because they showed such extensive characteristic lesions. The condition most interesting to the speaker was the large amount of pleuritic effusion of a very peculiar greenish soupy colour; the cat was a small-sized adult, but in the two sides of the thorax there must have been the better part of a pint of fluid. There was no history of coughing, as in Mr. Livesey's case. The cat had been in his care before for a few days while the owners were away three months, and had suffered considerably from diarrhoea, which, however, yielded to ordinary treatment, and the cat was practically normal on its return home. Recently he was called to see the animal, and upon examination advised destruction, and this was carried out.

The PRESIDENT stated that in the case mentioned by Mr. Martin he had found tubercle bacilli in large numbers, there had been no difficulty in demonstrating that. It was remarkable that here, again, there was no cough, more so in this case than in the one he had submitted. It was probable that in this instance there was a discharge of tubercle bacilli from the nose. Though unlikely in Mr. Martin's case, in the speaker's case it was probable that the lesions were mainly in the interstitial tissue and were conveyed thither by the blood stream. In Mr. Martin's case there was most likely local affection (broncho-pneumonia) in the first instance, which was more likely to prove dangerous. It was difficult to over-estimate the danger to children, particularly from furry kittens, which were cuddled and petted. Enquiry was sometimes made as to the type of organism, whether bovine or human. Both types were undoubtedly met with, whether in the abdominal or pulmonary form. It was impossible to tell by microscopic examination alone; biological examination, inoculation, and experiment were needed. Some cats took infection from human beings living in tuberculous households, others from the milk of tuberculous cows.

Mr. DUNLOP MARTIN referred to a case of metritis in a fox terrier bitch, the viscera having been sent to Prof. Wooldridge. The bitch was just a year old. Nothing had been noticed by the owner until the period of oestrus, which began about a month before the speaker had seen the bitch, when she was practically *in extremis*, and there was a profuse bloody discharge. She was very weak and exhausted, very anæmic, and he could only advise her destruction. She was the youngest bitch he had ever heard of in such a condition. The uterus was enormously enlarged, the enlargement beginning about $\frac{1}{2}$ in. to $\frac{3}{4}$ in. from the cervix and extending practically the whole length of the body of the uterus and some distance beyond the division into the cornua.

The PRESIDENT remarked that this case was one of chronic metritis, met with frequently in bitches seven or eight years old, and in many cases those that had not had puppies. It was extraordinary to find it in so young a bitch. There might have been some constriction of the *os uteri*, preventing conception, and infection from some other source may have occurred, preventing the escape of the discharge. It was not possible to say definitely. If diagnosed sufficiently early, before the bitch was in a state of collapse, the only treatment he could suggest was hysterotomy. In many of such cases an organism was present which corresponded with, and he believed was, the *bacillus coli*, and for such affections vaccination might be effective. He had had cases in which he had applied this treatment with beneficial results; others in which no benefit was derived from it. In cases of valuable bitches where the owners did not desire the performance of a radical operation, it

might be worth while to vaccinate first, but if that should prove of no avail then resort to the more drastic treatment of extirpation of the uterus.

SOME CLINICAL CASES.—By R. EAGLESHAM.

DISCUSSION.

(Continued from p. 758.)

The PRESIDENT expressed regret at the absence of Prof. Macqueen who, in the ordinary course, was to have resumed the discussion on these cases.

Mr. W. PERRYMAN said he had read the paper in *The Record* with some astonishment. He had always been sceptical about rheumatism in horses, a subject which he thought was spoken of much as influenza in the human subject and distemper in the dog, and he might add, as influenza in the cat, the term often indicated a "cloudy" diagnosis. From motives of conscientiousness—to which he did not lay sole claim—he had never been satisfied that the horse was frequently attacked with rheumatism. Mr. Eaglesham had described one or two cases rather minutely. Possibly the cases described were those in which young animals had been over-worked or some other cause had operated which Mr. Eaglesham had not found out and they therefore had regarded them as rheumatism. The animal in question had shown thickening of the sheaths of the tendon in the sesamoid region, and of the check ligament. When large numbers of horses were imported, particularly from Canada, it was a common experience with practitioners that the young horses, when brought to London, would, if they were not carefully worked or "seasoned," show after a short period the general stiffness to which Mr. Eaglesham had referred. These horses had a great tendency to lie down. At the present time he had an animal that was always lying down and would not eat its food when up. In these cases he generally paid regard to the check ligament, and frequently found heat and tenderness, and after a short time thickening. Unless the animal were at once rested the train of symptoms mentioned by Mr. Eaglesham would follow. There was thickening and inability to walk, especially on first rising, the horse would get up but could not get his heels down properly. As time went on there was contraction of the tendons, knuckling over the fetlocks, and ultimately ruination of the animal. If that were rheumatism he feared he had wrongly diagnosed many of his cases. He had always associated the trouble as a characteristic of young animals, particularly the hot-headed ones, also as showing the breakdown of the fibrous tissues of the tendons, followed by infiltration of interstitial tissue, and all the sequelæ of contraction. He quite agreed that many young animals fell lame and showed that particular train of symptoms after sickness, but he had always regarded it as a consequence of inability to do the work required of them. The trouble occurred less in some stables than in others—more so where the masters were inconsiderate of the animals. It was a good thing that some young animals did fall sick on going into the stables, because masters often did not pay the attention to training and conditioning that they should; sickness created alarm, which resulted in the animals receiving better treatment in respect to work. The only cases of rheumatism which the speaker had seen were those in which the peculiar cracking of the joints was heard as the animal walked round. His own experience and Mr. Eaglesham's paper enabled him to gather that it was nearly always the young horse that was affected by the symptoms mentioned in the paper; it was more natural to look for rheumatism in old horses.

In conclusion, he was a doubtful believer in rheumatism, even chronic or acute rheumatism, and he believed that many so-called cases were capable of other explanations. If, in many cases, the animals had been better

conditioned, he did not think that the running over of the fetlock joints and general contraction would be so frequent.

Mr. H. D. JONES was specially interested in rheumatic tendonitis. He asked what interval of time elapsed between the convalescent stage of the illness and the time the horse was first put to work. He had had many of these cases, and could not agree with Mr. Perryman's observations about overwork, as many of the animals he was referring to had done no work at all. The horses had been admitted to the infirmary and had been very ill, mostly with pleurisy and effusion into the chest. After about a fortnight of convalescence, the legs of the animals had been found, on manipulation, to be very tender in the region of sesamoid sheath. The slightest touch caused the animal to lift the leg very high. Next day the same animal would be lame in the hind leg, and he had seen an animal lame in three different legs in twenty-four hours. Whether the lameness was rheumatic or not he could not say, but it was certainly metastatic, and of an acute order. The animals did not show the same degree of pain when the hind legs were affected as in the case of the front leg.

A very interesting article, by Major Martin, had appeared in *The Record* of January 25th, 1913, in which he had pointed out that nearly every case of metastatic lameness which he had, occurred after pleurisy with effusion into the chest; he had added that recovery from pleuritic effusion was, in nine cases, interrupted by painful swelling of the sesamoid sheath at the back of the fetlock. In four cases the trouble had occurred in the fore legs, and in one in the hind leg, and was accompanied by hot joint, general rise of temperature and constitutional disturbance. He would ask Mr. Eaglesham whether he had noticed that metastatic lameness followed tapping and drawing of blood in the early stages of pleurisy. The speaker had lately tapped a considerable number of horses for pleurisy and pneumonia—not easily differentiated in the early stages—and thought he had found a diminution in the complaint of metastatic lameness. He had never seen any beneficial results from treatment in the acute stages. He had tried bandaging and the ordinary treatment for rheumatism, but had secured no benefit. He had had animals lame for six months with the complaint. A slight benefit had followed puncture with the thermal cautery with antiseptic precautions, in the chronic stage, when there was fibrous thickening in the sesamoid sheath.

Mr. PRICE: I have been very interested in the discussion we have had to-night, especially when I remember I was at the Veterinary College in the days of Spooner. He taught us even in those days that navicular disease, was often the cause of thickened tendons, and he was sure the disease was of a rheumatic type, he recognised how shifty the disease was. When you trotted the horse up one day the lameness would be on one leg, the next day on both, and a few days after would change again: proving beyond doubt it was of a rheumatic type, and when unnerved the horse would often go sound, even if the tendons were thickened. I have preached the same doctrine to my clients ever since, and should recommend you all to stick to the opinion that the disease in question is of a rheumatic type, it is well to have a definite opinion of cases of this kind.

I am well aware you can have sprained and thickened tendons without navicular disease, but in my opinion, which is backed up with 40 years experience, I can safely say that seven thickened flexor fore tendons out of ten are due primarily to navicular disease: and these cases can be relieved and made to go sound by dividing the nerves. How often do we find chronic cases of thick tendons which have been blistered, fired, blistered again and turned out into straw-fed or grass for months, and come up little or no better. But when the median and

outside plantar have been divided—which Prof. Hobday is so keen on—the horse goes sound, and if put into the right job, will do a lot of work.

I don't know any disease you can waste more time and money than you can by firing and blistering cases of this description. It is best, as Spooner said in the olden times, "Don't be in a hurry: make sure of your diagnosis, as it will save you a lot of trouble and bring you into repute." I don't think science has made much advance with these diseases since the days of Spooner. I thank the essayist for his paper.

Mr. S. H. SLOCOCK apologised to Mr. Eaglesham for not having read his article in the journal. Associated, as he had been, with lame horses for a good many years, he began to think, like Mr. Perryman, that his diagnosis had been wrong, especially as he disagreed with both Mr. Perryman and Mr. Price. He was a great believer in the actual existence of rheumatism in the cases referred to; he could not associate contraction of the tendon with anything but rheumatism. He had had horses which came in sick, perhaps after a day's work, and just about at the time when they were recovering and they seemed fit for work again, acute metastatic lameness occurred with thickening of the various tendonal structures. If that were not rheumatism what was it? Mr. Price's suggestion that navicular disease was rheumatic in nature had never occurred to the speaker. It had, however, occurred to him that laminitis was rheumatic in origin, especially sub-acute laminitis. He disagreed with Mr. Perryman as to the check ligament. He had never associated a sprain of the check ligament with rheumatism. He had been taught that lameness in the horse started with the check ligament, but he was not many years in practice before thinking otherwise. He thought now, however, that sprain of the check ligament, while causing lameness, was secondary to ringbone. He therefore regarded lameness as arising from ringbone formation, more particularly at the back of the pastern bones, just in the flexure. A deposit in that position was bound to make a horse knuckle up his fetlock, just as an injury to the frog would do, with a resulting undue strain on the check ligament. He was unaware of any particular treatment for rheumatism except turning a horse out to grass; that, however, did not recommend itself to the veterinary surgeon. If put to grass the animals frequently came round again. Much of the benefit he attributed to change of diet, and still more to the continued slow exercise, the horse not being allowed to stand still for hours at a stretch as in the stable.

Capt. G. REES-MOGG remarked in connection with rheumatic affections, that he had often had lame horses, but had frequently been defeated in his efforts to find where they were lame. The horse might improve after rest with cold water applications, etc., but go lame again after work. He had had experience of a dozen of such cases. The affection might, or might not be rheumatic, or it might indirectly be due to rheumatism. In at least a dozen post-mortems he had found tiny lumps, about the size of a pea, on the back of the os coronæ. If there were some rheumatic disease of the tendon, which played on the bones it might possibly have something to do with the lameness, or it might be entirely due to osteitis of the os coronæ.

Mr. DUNLOP MARTIN referred to Mr. Slocock's remarks on the strain of the check ligament, observing that in his experience this strain was associated with some over extension—undue dropping and over extension of the tendons, which called into play the action of the check ligament. He had never regarded this strain as excited in the manner indicated by Mr. Slocock.

Mr. W. N. THOMPSON mentioned the case of subcutaneous sarcomata which he had brought forward at the previous meeting. Since then he had been able to procure a photograph and to look up the case. He

desired to make one or two corrections. The horse had been under his observation for four years, not six or seven years. He had said that Sir John M'Fadyean had examined a section of the growth, and had classified it as sarcoma; to that he would add that Sir John was very definite in stating that the internal organs were all healthy.

Mr. J. B. BUXTON referred to the lameness of a cart horse which came on and went off with weather changes; that might be a coincidence, but if the lameness were not due to rheumatism he had not the faintest idea of the cause.

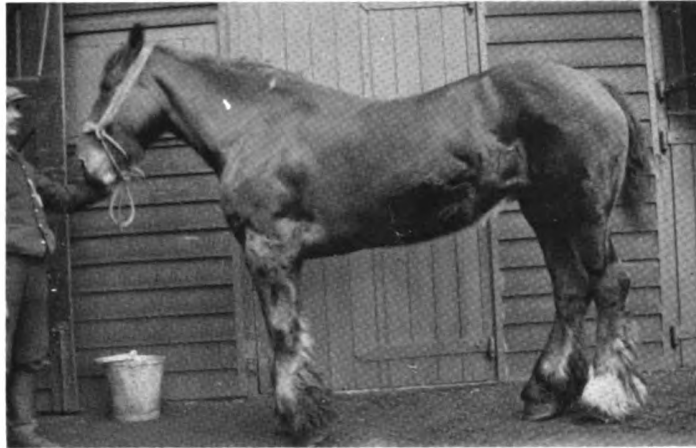
The PRESIDENT thanked Mr. Eaglesham for bringing forward his most interesting cases, and remarked that the discussion had that evening turned mainly on one of the three sets of cases, namely, rheumatic tendonitis, but the others, although not so debatable were equally interesting. The case of multiple subcutaneous sarcomata, for instance, was a very rare one, and Mr. Thompson's case was interesting also. He had seen Mr. Thompson's case at the time that it came in, and only on the day of the meeting the speaker had made unsuccessful efforts to get a photograph; he was glad therefore that Mr. Thompson had been able to do so. He had seen the post-mortem and could confirm Mr. Thompson's statement that there were no internal growths, such as might have been expected. The lumps described by Mr. Eaglesham and Mr. Thompson were perfectly free from pain and were quite cold, and, apparently, did not cause inconvenience except where they got in the way of harness. It was remarkable that an animal should be so extensively affected by growths of that kind without showing any general systemic affection. It was well to hear of such cases occasionally, as sometimes there were difficulties relative to diagnosis; the whole course of development was not seen, and when animals were brought in without any history, the veterinary surgeon might be misled into diagnosing botryomycosis or farcy buds, although the fact that the growths come on gradually discounted that.

With regard to renal disease and calculi in the horse, that was of considerable interest. He had not had a case under observation so long as Mr. Eaglesham had, but he was interested in the statement that there was no evidence of colic during the course of the disease such as might have been attributed to the kidney. He held the view that some cases of recurrent colic were due to renal calculi. In post-mortems on horses that had died from other causes he had sometimes met with calculi as big as two fists put together affecting one kidney, obliterating the whole of the kidney substances, the other kidney working quite normally. It was hardly conceivable that calculi had reached that size without causing abdominal pains that had been diagnosed, possibly, as colic. That form of multiple small calculi or sabulous matter was more common, he had found, in cows than in horses, and was often associated with cystitis. He believed that Mr. Eaglesham found the offensively smelling urine almost always associated with cystitis.

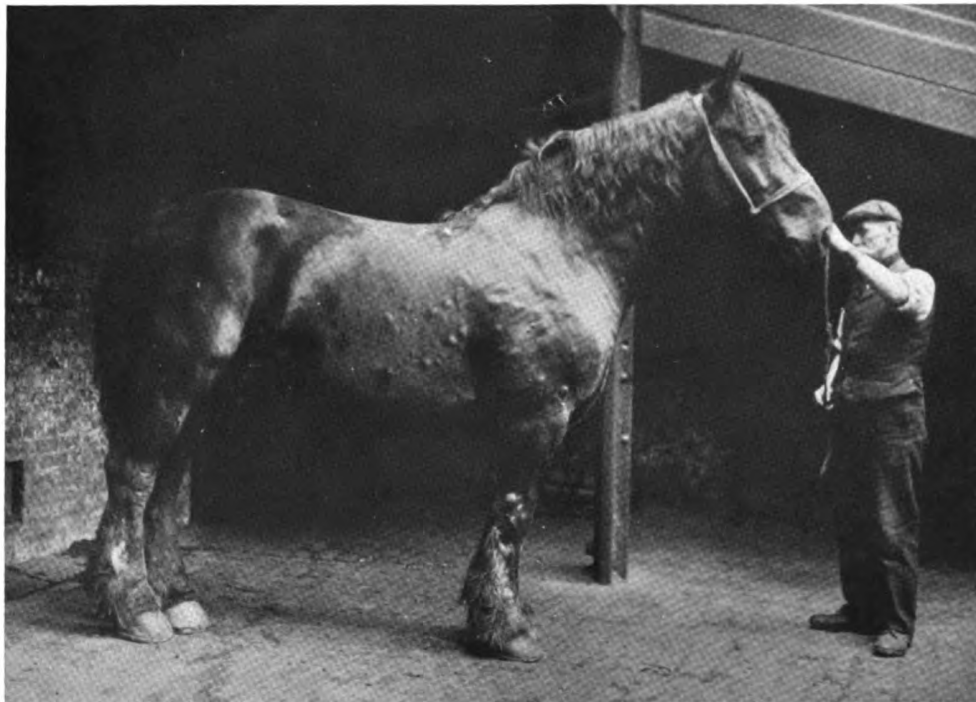
Turning to the cases of so-called rheumatic tendonitis, chiefly discussed that evening, he might say that that subject alone would have sufficed for a paper. At the previous meeting almost the last question asked was, What could be called rheumatism? The trend of the discussion appeared to define rheumatism as an intermittent lameness that could not be accounted for. If that were rheumatism, all must admit, as he believed, that rheumatism in the horse did exist; there were numerous cases of intermittent lameness (also metastatic) which could not be explained. He thought, however, that Mr. Eaglesham's cases hardly merited the term "rheumatic tendonitis." He had no doubt of the existence of a form of tendonitis that did

appear under the conditions described by Mr. Eaglesham; and there the speaker joined issue with Mr. Perryman, although he agreed with the latter's views in relation to some of the cases he had mentioned. The two sets of cases were not at all analogous—the conditions were entirely different. Certainly after some cases of influenza, strangles, or purpura, there was inflammation of the tendon sheaths which might become practically chronic, tending to the formation of fibrous tissues, which, contracting, caused knuckling, just as contraction of the fibrous tissue in a chronic strain would cause knuckling. This, however, should not be called rheumatic, as it had a definite specific origin, and was due to the same cause as the previous systemic affection, and in those special cases, an infection involved the tendon sheaths just as it might involve any other part of the body.

With regard to strained check ligament, the subject was not perhaps on the main theme, but he found himself in partial agreement with several speakers holding divergent views. He considered that Mr. Price's explanation of the thickening of the tendon following navicular disease merited some consideration, as did also Mr. Slocock's cases of strained check ligament following ringbones. In the speaker's opinion strain of the perforans tendon did occur as a secondary condition from some painful condition of the foot aggravated by concussion. In Mr. Price's case the animal would endeavour to correct the effects of concussion, caused by banging the foot down, by contracting his tendons, so in the case of ringbones. In each of those cases there would be a strain of the perforans tendon at the point of junction of the check ligament with the perforans tendon. In some cases fibrous thickening from a slight strain frequently repeated involved the check ligament, but the condition was not originally a strain of the check ligament, being a strain of the perforans tendon high up in the neighbourhood of the check ligament. He did not agree with Mr. Slocock's view that this condition did not cause lameness, the speaker believed that the condition did cause lameness, but in the case he referred to there were two co-existent causes. That applied to Mr. Martin's question as to whether it actually was the check ligament that was strained. He thought Mr. Martin had shown that the check ligament was hardly likely to be strained under such conditions, confirming the speaker's view that it was the perforans tendon at the junction of the check ligament that was strained. As to the question of rheumatism being due to organisms in the blood, raised at the last meeting, the whole problem was beset with difficulties. In the case recorded by Mr. Eaglesham, he thought it would be admitted that the lesions had been caused by organisms, and these organisms had been carried there by the blood stream; that should not be called rheumatism. In the speaker's opinion the term "rheumatism" should be limited to mean a painful condition of the fibrous structure of the body, either muscles, tendons, or ligaments, associated with deposition of salts in some of those structures. He thought it was due mainly to defects in the alimentary tract. He could quote chapter and verse for various cases in the human subject wherein those symptoms had invariably been secondary to alimentary trouble. In some forms of colitis in human beings the malady was attended by excruciating pains in various parts of the body. That being so, he usually considered that rheumatism should be treated with a smart purgative, such as calomel or aloes or a combination of both. In his opinion rheumatism was a toxæmia due to absorption of the toxin generated in the alimentary tract, which toxin being circulated in the blood and fibrous structures, became fixed there, causing myositis when involving the muscles, tendonitis in the case of tendons, and inflammation of the ligaments when the latter were involved. Local treatment in such cases



TENDONITIS.



MULTIPLE SARCOMA

Illustrating notes by Mr. R. EAGLESHAM, M.R.C.V.S.

was of secondary importance except as to relieving pain at the time, it did not remove the cause. He believed that Mr. Eaglesham's case was definitely due to metastasis of the organisms from the lungs or original seat of infection. He was quite convinced that tendonitis following on influenza did occur. On the other hand a considerable number of cases of strained and thickened tendons resulted from working horses in an unfit state. Both conditions might co-exist, differing, however, in origin and nature.

Mr. W. PERRYMAN did not wish it to be inferred from his previous remarks that he had never seen cases of effusion following pneumonia, pleurisy and purpura; he meant merely that it was incorrect to describe such cases as rheumatic. In the case of contraction mentioned by Mr. Eaglesham, he should be understood to have said that originally it was not rheumatism. His contention was that the majority of cases stated to be rheumatism were not such and were capable of other explanations. Capt. Rees-Mogg had referred to tubercles at the back of the pastern, but the speaker suggested ringbone might be the cause. To correct any misunderstanding on the part of Mr. Slocock he had not said that the trouble with the check ligament was rheumatic. In reference to the check ligament no speaker had mentioned the general thickening associated with splint lameness, particularly underneath the knee; if the lameness from the splint were got rid of, the lameness from the check ligament would disappear. [Mr. Slocock here observed that the acute metastatic lameness occurring with glanders was certainly not rheumatic.]

The PRESIDENT desired to reply to a question put at the last meeting: Were sarcomatous growths dangerous to the human being? An emphatic "no" was the answer. The Cancer Research Fund Experiments showed clearly that cancer was not inter-transmissible between different species; only transmissible from animal to animal of the same species. Cancer or sarcoma therefore was not transmissible from the horse, or other animal, to the human being.

Mr. R. EAGLESHAM then replied briefly to the discussion. His belief in bringing the cases forward was that they would be interesting to the clinical practitioner, and his object had been to hear the opinions of others. Cases of subcutaneous sarcomata in the horse were not numerous; in twenty-three years experience he had only met with two, the present case and one in a five-year-old horse. The sarcomata were not, he believed, very malignant; they were very slow in growth, and the horse would probably be worn out before they became unsightly. Mr. Thompson's case was one of the same class, and was very interesting. The rheumatic cases he had brought before the Fellows were chronic cases of infective origin. The cases he had come in contact with were mostly those met with in young horses, four to six years old. The animals had generally not done much work, and the trouble had followed bad illnesses during the convalescent stage.

Recently he had had a case of bursitis of a rheumatic type in a young horse, following purpura. The bursa affected was the sesamoidean of a front fetlock which became inflamed and painful, and caused troublesome lameness requiring treatment for six months to get it sound. Whether this class of case should be classified as rheumatism or not, he could not say, but he had known veterinarians of large clinical experience who had always classed them under that heading. He had met with cases of navicular bursitis in horses following pleurisy and dropsy of the chest which had rendered them more or less lame and unsound afterwards, and he had always classed these cases of lameness as of a rheumatic type. As he had said, the two cases he had described were six-year-old horses, which had not been

much worked, and he did not consider that in either case they had been put to work too early.

He thought that in the early stages iodide of potassium was the best treatment, followed by blisters, and a run "at grass." The renal case had lasted 2½ years. Since the last meeting, he had had the organs examined microscopically by Mr. Sheather at the Royal Veterinary College, and that gentleman had reported as follows:—

"I have examined the kidneys and bladder from the horse, which you brought here on Wednesday last. Microscopic examination shows that the kidneys were in a condition of interstitial nephritis. As is not infrequently the case, the lesion was not uniform in its distribution, areas of apparently quite normal kidney alternating with areas in which practically the whole of the uriniferous tubules were destroyed. The peculiar appearance presented by the pelvis of the kidneys was due to inflammatory changes induced, no doubt, by the presence of the renal calculi. Microscopic examination of the lesions present in the bladder showed that these were papillomatous in nature, and that the epithelium covering the outgrowths was the seat of an extensive round-celled infiltration. These lesions were, I think, due to the persistent irritant action of the sabulous deposit, which I gathered from you was present in the bladder. Dr. Lander kindly analysed one of the renal calculi for me, and he reports that it was composed practically entirely of carbonates."

The usual vote of thanks was passed to those who had exhibited specimens; and on the motion of Mr. Stroud, seconded by Mr. MacCormack, a hearty vote of thanks was passed to Mr. Eaglesham for the very interesting paper he had submitted.

HUGH A. MACCORMACK, Hon. Sec.

TENTH INTERNATIONAL VETERINARY CONGRESS, LONDON, Aug. 3—8, 1914.

GENERAL MEETINGS.

1. OFFICIAL OPENING MEETING
Monday Aug. 3, at 11 a.m.
2. FOOT-AND-MOUTH DISEASE
Tuesday, Aug. 4, at 10 a.m.
3. TUBERCULOSIS
Wednesday, Aug. 5, at 10 a.m.
4. EPIZOOTIC ABORTION
Thursday, Aug. 6, at 10 a.m.
5. PUBLIC CONTROL OF THE PRODUCTION, DISTRIBUTION AND SALE OF MILK IN THE INTERESTS OF PUBLIC HEALTH
Friday, Aug. 7, at 9 a.m.
6. DISINFECTION OF WAGGONS*
Friday, Aug. 7, at 12 noon.
7. OFFICIAL CLOSING MEETING
Saturday, Aug. 8, at 12 noon.

SECTIONAL MEETINGS.

Section I. VETERINARY SCIENCE IN RELATION TO PUBLIC HEALTH.

- (a) Meat Poisoning—its Pathogenesis and the measures necessary to guard against it
Tuesday, Aug. 4, at 2 p.m.
- (b) General principles to be observed in the inspection of carcasses and organs of Tuberculous Animals with a view to determine their safety as articles of Human Food
Wednesday, Aug. 5, at 2 p.m.
- (c) Construction and interior of stables in relation to the prophylaxis of diseases of animals, especially Tuberculosis, and also to the hygiene of milk [adjourned discussion]†
Thursday, Aug. 6, at 2 p.m.

* In accordance with Resolution of the IXth Congress. [1st. Section III., p. 9].

† Discussion adjourned from the IXth Congress. [Resolution of General Meeting XII].

Section II. PATHOLOGY AND BACTERIOLOGY.

- (a) John's Disease *Tuesday Aug. 4 at 2 p.m.*
 (b) Bovine Piropasmoses [European] *Wednesday, Aug. 5, at 2 p.m.*
 (c) Ultra-visible Viruses *Thursday, Aug. 6, at 2 p.m.*
 (d) Distemper [Etiology and Vaccination] *Friday, Aug. 7, at 2 p.m.*

Section III. EPIZOOTIOLOGY.

- (a) Anthrax *Tuesday, Aug. 4, at 2 p.m.*
 (b) Swine Fever *Wednesday, Aug. 5, at 2 p.m.*
 (c) Glanders *Thursday, Aug. 6, at 2 p.m.*
 (d) Sarcoptic Mange of the Horse *Friday, Aug. 7, at 2 p.m.*

Section IV. VETERINARY MEDICINE AND SURGERY.

- (a) Anæsthesia *Tuesday, Aug. 4, at 2 p.m.*
 (b) Laminitis *Wednesday, Aug. 5, at 2 p.m.*
 (c) Surgical Treatment of Roaring *Thursday, Aug. 6, at 2 p.m.*
 (d) The Use of Drugs in the Treatment of Disease caused by Nematode Worms *Friday, Aug. 7, at 2 p.m.*

Section V. TROPICAL DISEASES.

- (a) Diseases Transmitted by Ticks; their Classification, Treatment, and Prevention *Tuesday, Aug. 4, at 2 p.m.*
 (b) Diseases Transmitted by Winged Insects; their Classification, Treatment, and Prevention *Wednesday, Aug. 5, at 2 p.m.*

Section VI. ZOOTECHNY.

What influence has Heredity on the early development of affections which impair the economic usefulness of horses. What are the manifestations of these influences that should be avoided in the selection of breeding animals? * *Thursday, Aug. 6, at 3 p.m.*

*In accordance with Resolution of the IXth Congress (Fourth Section IV., p. 3).

PROGRAMME OF RECEPTIONS.

Sunday, August, 2nd:

RECEPTION BY THE ORGANISING COMMITTEE AND MEMBERS OF THE ROYAL COLLEGE OF VETERINARY SURGEONS, to be held at the Hotel Cecil, Strand, London, W.C., from 8.30 to 10.30 p.m.

Tuesday, August 4th:

CONVERSAZIONE GIVEN BY THE ORGANISING COMMITTEE AND MEMBERS OF THE ROYAL COLLEGE OF VETERINARY SURGEONS at the Natural History Museum, South Kensington, to Members of the Congress, from 9 to 11.30 p.m.

Wednesday, August 5th:

OFFICIAL DINNER OF THE CONGRESS, at the Hotel Cecil, Strand, W.C., at 7.30 p.m. Price of Tickets: Gentlemen £1 ls.; Lady 16 shillings, inclusive of wines and cigars.

It is hoped that members will attend the official dinner in large numbers. Those intending to be present should notify the Honorary Secretary not before Tuesday, July 28th, 1914.

Friday, August 7th:

MUNICIPAL RECEPTION TO MEMBERS OF CONGRESS.

Thursday, August 6th:

DINNER TO GOVERNMENT DELEGATES GIVEN BY HIS MAJESTY'S MINISTERS.

A SPECIAL ENTERTAINMENT FOR LADY MEMBERS IS BEING ARRANGED.

Notice as to Dress.

For morning and afternoon meetings: Gentlemen, Morning coat or frock; Ladies, Morning dress.

For all evening meetings, receptions, dinner, etc.: Gentlemen, Evening dress; Ladies, Evening dress.

It may be necessary to wear levée dress or uniform for Government or Municipal receptions. Instructions on this point will be given on the cards of invitation.

In order that there may be no mistake about invitations, members are requested to register their names at an early date as well as those of their ladies. Cards of invitation will be required for certain of the receptions, and members who have not received these are requested to apply for them at the Secretary's Office as soon as possible after their arrival in London.

The Office of the Secretary will be at the place of meeting during the Congress, The Central Hall, Westminster, and will be open all day on Saturday, August 1st, and from Monday, August 3rd, till Saturday, August 8th.

The City of London and the International Veterinary Congress.

The City Press says:—"The King has graciously accepted the post of Patron, and the President of the Board of Agriculture is acting as the President of the Council of Honour. On that Council all the Ambassadors and the Lord Mayor, who is the sole other member, are serving. Sir J. M'Fadyean is the Chairman of the Committee, and Sir Stewart Stockman, Chief Veterinary Officer for England, the Organising Secretary. The arrangements include an official reception and banquet by the Government. The Court of Common Council referred on Thursday to the Coal and Corn and Finance Committee for consideration a proposal to give a reception to the delegates at Guildhall. The project met with very sympathetic consideration, and the reference to Committee was hearty in the extreme.

Inspectors' Fees

A contributor sends us the following with a request for publication:

BOROUGH OF FOLKESTONE.**Duties of Veterinary Inspector.**

1. Generally to act as Veterinary Inspector under the Diseases of Animals Act, 1894, and any Act amending the same, and all orders made by the Board of Agriculture thereunder.
2. To act as Veterinary Inspector under the Tuberculosis Order of 1913.
3. To attend all public sales of swine in the Borough, to inspect all swine in trucks at the railway stations, and all swine and piggeries in the Borough.
4. To provide a place of detention for dogs as required by Article 2 of the Importation of Dogs Order of 1901.
5. To report to the Sanitary and Hospitals Committee once every quarter as to his inspection of swine and as to the work generally carried out by him during the preceding three months.
6. In respect of Nos. 3 and 5 of these duties the Corporation will pay a fixed fee of £10 per annum, in respect of No. 2, fees will be paid in accordance with the scale made by the Kent County Council on the 21st May, 1913, of "Fees and allowances payable to Veterinary Inspectors," and in respect of No. 1 fees will be paid for work done.
7. In respect of No. 4 of these duties, the Corporation will pay no fees, and the owner of the dog is the only person from whom payment can be claimed.
8. The appointment will be determinable by three calendar months' notice given by either party.

A. F. KIDSON, Town Clerk.

Folkestone, April 3rd, 1914.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.		Out-breaks	Slaugh-tered. *
	(a)		(a)		(b)		(b)		(b)	(a)	
Gr. BRITAIN.											
Week ended June 20	21	22			1	14	27	41		87	1100
Corresponding week in											
{ 1913 ...	9	10			2	6	29	46		58	510
{ 1912 ...	9	11			1	2	34	89		97	1163
{ 1911 ...	13	15			3	10				64	664
Total for 25 weeks, 1914 ...	434	462	11	74	48	128	1357	2438	145	2096	21323
Corresponding period in											
{ 1913 ...	315	340			83	237	1623	3311	121	1174	16605
{ 1912 ...	484	542			80	164	2061	4600	162	1734	22315
{ 1911 ...	459	572	1	18	103	271			302	1280	14050

(a) Confirmed. (b) Reported by Local Authorities.
Board of Agriculture and Fisheries, June 23, 1914

† Counties affected, animals attacked: London 14.

IRELAND. Week ended June 20		...	...	...	...	...	...	Outbreaks	...	...	...
		...	...	...	...	...	...	1	4	2	35
Corresponding Week in	{	1913 ...	...	...	...	...	...	...	15	2	19
		1912 ...	...	...	...	...	...	2	2	5	43
		1911 ...	...	...	...	...	...	2	...	1	1
Total for 25 weeks, 1914	...	1	1	75	953	...	...	48	343	115	614
Corresponding period in	{	1913 ...	...	...	...	...	...	90	310	82	499
		1912 ...	2	2	...	...	...	43	255	133	1245
		1911 ...	5	6	...	2	3	43	240	53	911

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, June 22, 1914
NOTE.—The figures for the Current Year are approximate only.

The Board of Agriculture and Fisheries have made Orders, under the Diseases of Animals Acts, 1894 to 1911, entitled, respectively, the Sheep Scab Order of 1914, and the Sheep (Double Dipping) Order of 1914, restricting the movement and requiring the double dipping of sheep on any premises or areas to which the provisions of the Orders are applied.

It is intended that these Orders shall be applied to particular premises or areas as and when considered necessary. The prevalence of sheep scab in Great Britain has been greatly reduced since 1907, when the compulsory dipping of sheep was first enforced throughout the country by Orders of the Board. It is hoped that by the enforcement of these more stringent Orders on particular premises, and in comparatively small areas, the complete eradication of the disease from Great Britain may be expedited.

The Board are at the same time taking additional precautions against the introduction of the disease into this country by sheep from Ireland.

June 9th.

The Board of Agriculture and Fisheries have been officially informed that the United States Government have resumed the issue of permits, for shipment on and after the 20th inst., for the importation into the United States of cattle, sheep and other ruminants, and swine from Great Britain.

The issue of such permits was suspended by the United States Government in consequence of the recent outbreaks of foot-and-mouth disease in this country.

All permits issued are subject to the approval of Dr. W. H. Wray, of "Maryland," Beaconsfield, Bucks, the representative of the United States Department of

Agriculture in Great Britain. Only hay, fodder, or litter forwarded from the United States, or such material originating from the farms from which the animals are shipped, or of known origin in Great Britain and approved by Dr. Wray will be allowed by the United States Government to accompany the animals, and the animals will not be permitted to be shipped on the same vessel with horses originating from the Continent of Europe. Horses from Great Britain can, however, be shipped on the same vessel as cattle, sheep, or other ruminants or swine from this country, subject to the origin of the fodder accompanying such horses being approved by Dr. Wray.

Board of Agriculture and Fisheries,
4 Whitehall Place,
London, S.W.

10th June, 1914.

PARLIAMENTARY.

In the House of Commons on Tuesday, June 16th.

THE POSITION OF AGRICULTURE.

The House went into Committee of Supply, Mr. MacLean (Peebles and Selkirk, Min.) in the Chair, on the Vote of £344,027 for the Board of Agriculture and Fisheries.

Mr. RUNCIMAN described the Estimate as the largest which the Board had ever had to present to Parliament. They were at present negotiating with the Argentine Government with a view to arriving at some arrangement which would enable English stockowners and

breeders in future to export cattle to the Argentine at a much earlier date than the present period of six months after the Board had declared this country to be free from disease. It was impossible for them to take any risks with regard to disease which might have originated in the Argentine and then find its way back to the United Kingdom, and it was on that basis that they had conducted their conversations with the representatives of the Argentine Government.

The position in Ireland had been far from reassuring, but they were still acting with great caution. Not a single case of infection had come into Great Britain because of the relaxations which they had granted. Thirty local authorities in England and 17 in Scotland had entirely prohibited Irish cattle in their boundaries. They were not going to be over-ridden by the Board, and he trusted they would take the advice of the Board that they would be acting quite safely if they were now to relax their prohibition. Any action taken must be absolutely prompt, and that could only be secured by leaving it in the hands of the executive officers and inspectors. It would be very little use saying they would not accept animals from one area in Ireland if the contacts were allowed to come in. The mere suspicion of disease in Ireland did more harm to the Irish farmers than the restrictions imposed by the Board.

THE PREVALENCE OF SWINE FEVER.

Foot-and-mouth disease had not involved them in losses anything like so large as those from swine fever, which during the last generation had been the most persistent and intractable of all animals' diseases. During the last few years they had not been able to diminish the area over which the disease was spread or to reduce seriously the number of outbreaks. The net expenditure on swine fever in the course of 12 months had been £120,000, spread over 2,900 outbreaks. They could not regard their present arrangements for dealing with the disease satisfactory. (Hear hear.)

COMMITTEE ON SWINE FEVER.

While good work could be done in the laboratory, arrangements had been made for experiments in the field as well. Experiments were to be conducted on 18 premises belonging to 10 owners in eight counties, and in one or two cases they would be conducted under such perfect conditions of isolation as, for instance, in the grounds of a large lunatic asylum, where great risks could be taken. (Laughter.) With the financial assistance of the Development Commission and with the help of representatives of outside bodies, arrangements had been made for concurrent research into this disease. Various preventive measures had been suggested—preventive inoculation, for example—with the object of getting rid of the present restrictions upon the movement of swine. But if inoculated animals were allowed to pass about freely, every stockowner would be compelled to adopt inoculation. That would prove just as costly to the big breeders as the present restrictions, and the Board could not therefore embark on a great change in that direction without the full concurrence of the stockowners. He recognised that the present restrictions were sometimes unnecessarily hurtful, because they depended upon artificial county boundaries, and if any county cared to approach the Board on the subject the Board would be prepared to go closely into their local conditions and, if possible, to relieve them of the disabilities under which they suffered. It was possible, also, that the scientific work of the next few years might enable the Board to take a bolder line with regard to swine fever.

TRAINING OF VETERINARY SCIENTISTS.

The supply of first-class veterinary scientists was by no means as large as it should be, and representations

had been made to the Treasury and the Development Commissioners in regard to the training of men. The Development Commissioners had, as an experiment, which he hoped would become a regular custom, agreed to the creation of two research scholarships in veterinary science of the annual value of £150, for a period of three years each, commencing in October next. In addition this year the Board would be offering three scholarships of £100 each, tenable for three years.

A NEW TUBERCULOSIS ORDER.

Dealing with the question of tuberculosis, Mr. Runciman said he hoped that the new Order would be issued at the beginning of July. It would provide for one valuation, which would be the market value of the cow at the time of the valuation. The new basis of compensation would be three-fourths of the value in non-advanced cases and one-fourth in advanced cases, with a minimum of 30s. in the latter cases. The refund to the local authorities would be three-fourths of the gross valuation, leaving with them also the right to the full salvage value. The Order would also provide that where an animal was held up for three days without the officer of the local authority coming to a decision on the subject it should be set free.

Mr. C. BATHURST moved to reduce the Vote by £100 in order to call attention to the Board's methods of combating swine fever, which consisted of the knife, the pole-axe, a meticulous network of harassing Government restrictions, and insufficient discrimination between serious and highly infectious disease such as foot-and-mouth disease and diseases of less importance such as swine fever. Their record in the matter was one of departmental ignorance and failure. In no country in Europe were the restrictions so harassing as those in this country, yet in no country in Europe had there been so continuous and progressive an increase in swine fever, and in none had their been so large a drop in the pig population. The restrictions were particularly hard on the small holder and the cottager. The agricultural community would no longer tolerate the existing Swine Fever Orders. Personally he thought too much emphasis was laid on the bacillus of the disease and not enough on the conditions in which it flourished. The pig was the cleanest of all domestic animals if only he were allowed to be so, yet he was treated as if he were the filthiest. Let the Board of Agriculture turn their minds to the pig-sty if they wished to get rid of the disease.

SIR J. SPEAR (Devon, Tavistock, Opp.) gave it as his opinion that the President of the Board had seriously failed to deal with the problem of swine fever. During the right hon. gentleman's tenure of office there had been an increase in the disease and in the number of animals slaughtered, and one of the consequences was a decrease of nearly 400,000 pigs in 1913, as compared with the preceding year. This, with the resulting high price of bacon, entailed great hardship on the consuming public, and especially on poor people. He suggested that, in dealing with swine fever, the Board should rely more than they did on the technical knowledge of the veterinary surgeons practising in the districts and less on the lay inspectors.

Mr. P. WHITE (Meath, N.) urged that there should be a Commission or Committee of Inquiry into the administration of the Diseases of Animals Act.

IRISH CATTLE.

Mr. T. W. RUSSELL (Tyrone, N.) stated that he could not undertake to open the ports in Ireland before he had received from the chief inspector an assurance that no danger would arise. When that was received there would be no difficulty in getting to business at once.

Mr. CRUMLEY (Fermanagh, S.) expressed disappointment that all restrictions were not to be relaxed immediately.

Serum Treatment for Swine Fever.

Writing to *The Farmers Gazette*, Dublin, Mr. John M. Harris, of the firm of Thos. Harris & Co., Ltd., says: "By the courtesy of Sir Stewart Stockman, Chief Veterinary Officer of the Board of Agriculture, I was permitted, a few days ago, to see and obtain particulars of the experiments which are being conducted by their Department at the laboratories at Alpertou and Hanwell.

1. At Alpertou I was shown two six-months-old pigs which were simultaneously inoculated four months ago with the swine fever virus and the remedial serum. They were ill for a few days thereafter. Six weeks ago a much stronger dose of the fever virus was administered to them and without the slightest ill-effects being manifested. The pigs are now strong and healthy.

2. Another pig, that was similarly dosed twelve months ago, had injected on the 5th May last what had hitherto been considered fatal doses of the fever virus. The pig is perfectly well at present.

3. On the 11th February last, fifteen pigs out of a pen of seventeen suffering from fever were inoculated with the serum, two of them being untreated. The untreated pigs died, whilst the fifteen which were subjected to the serum treatment are quite well and weigh 160 to 180 lb. carcase weight.

4. Six pigs out of another lot in a fever-infected sty were brought under the serum treatment and are doing well. Two pigs in this sty which were not so treated died as a consequence of the fever.

5. Twelve eight-weeks-old pigs were placed in a pen with a pig suffering badly from fever. All were subjected to the serum treatment on the 23rd April last. All are alive and doing well.

6. Nineteen small pigs were placed in a fever-infected pen, where they remained for five weeks, fifteen of them being treated with serum and four left untreated. All the four untreated pigs died and showed undoubted fever lesions, whilst the treated pigs are perfectly well and healthy.

7. Of four large old sows suffering from fever, two were inoculated with serum and are now perfectly well and being bred from. The other two sows in the pen which were untreated have died of fever.

8. Five sows in a fever-infected pen were treated with serum and have since farrowed and are alive and well."

The Zoological Society and the International Veterinary Congress.

The Zoological Society has presented Prof. Wooldridge with 1000 free tickets to the Zoo, available on the Sundays August 2nd and 9th, for the use of foreign visitors to the International Veterinary Congress. This is a compliment to the profession as a whole, and we understand that it is largely a personal compliment as well. Prof. Wooldridge and other members of the Camden Town staff have attended the Zoo animals regularly during recent years, and this comes in recognition of the good work they have done.

Royal Veterinary College Sports.

At Tufnell Park on Friday, June 12th, in beautiful weather, the Royal Veterinary College students held their annual sports. There was a fully representative company including Lady M'Fadyean, Mrs. E. S. Shave, Professors Macqueen, Shave, Wooldridge, Buckmaster, Lander, Marrett, Tinis, Reynolds, Messrs. R. Daubney, T. S. Price, B. Gorton, A. A. Pryer, V. Hare, and T. C. Wight.

The sports officials were:—Judges, Messrs. W. M. Barnard, E. G. D. Ratcliff (Blackheath Harriers), assist-

ed by Sir John M'Fadyean and Prof. Wooldridge; Prof. E. Brayley Reynolds officiated as starter, and Mr. R. F. C. Yorke, of the L.A.C., was timekeeper. Mr. R. H. Stalker, the hon. secretary, and the members of the Committee are to be congratulated upon the complete success of the afternoon. The prizes were distributed at the close by Mrs. Lander. During the afternoon the Prince of Wales Military Band, under Conductor Fredk. Skepelhorn (late 4th R.I. Dragoon Guards), gave a selection of music.

While many of the events were close, only one college record was broken, L. G. Housden, in the mile walk, beating M. F. Richardson's record in 1910 of 9min. 24sec. Housden's time being 8min. 26 3-5th sec.

100 Yds. Scratch Race.—Heat 1: H. Neave, 1; H. C. Driver, 2; Heat 2: F. L. Haydon, 1; J. Barlow, 2; Heat 3: E. C. Bowes, 1; E. W. Garry, 2; Heat 4, R. H. Stalker walk over. Final: R. H. Stalker, 1; F. L. Haydon, 2. Won by a foot. Time, 10 4-5th sec.

Putting the Weight.—R. H. Stalker, 30 ft. 5 in.

Throwing the Cricket Ball.—R. H. Stalker, 1 (99 yds. 7ft.); S. C. J. Bennett, 2 (93 yds. 5ft.); K. Simpson, 3 (77 yds. 7ft.).

220 Yds. Handicap.—Final: E. C. Bowes (6 yards start), 1; E. W. Garry (4), 2.

Long Jump.—H. Neave, 1 (18ft. 11 1/2 in.); L. G. Housden, 2 (18ft. 5 1/2 in.); E. C. Bowes, 3 (18ft. 2 1/2 in.).

120 Yds. Hurdle.—Heat 1, A. Drew, 2; Heat 2, C. K. Calder; Heat 3, P. F. Woodland. Final: P. H. Woodland, 1; C. K. Calder, 2. Time, 21 4-5th sec.

Sack Race: H. Chown, 1; L. Pugh, 2; A. Gibson, 3. High Jump.—J. E. Barnes, 1 (5ft. 11 in.); F. L. Haydon, 2 (4ft. 11 in.).

Mile Walk.—L. G. Housden, 1; G. H. Bennett, 2; L. P. Church, 3. Winner's time, 8min. 26 3-5th sec., which beats college record of 9min. 24sec.

Half-Mile Scratch.—L. G. Housden, 1; W. A. Dickinson, 2; A. Drew, 3. Time, 2min 20 sec.

Obstacle Race.—H. Chown.

Quarter-Mile Scratch.—H. Neave, 1; J. E. Barnes, 2; H. C. Driver, 3. Won easily. Time, 56 3-5th sec.

Mile Handicap.—L. G. Housden (scratch), 1; C. K. Calder (120 yds. start), 2; W. A. Dickinson (80), 3. Won by 120 yards. Time, 5min. 3-5th sec.

Several minor events added to the interest of the day, the College "Derby" of five furlongs on donkeys causing rare fun. The ladies had a race, as did the staff.

ARMY VETERINARY SERVICE.**THE ARMY VETERINARY CORPS.**

The Regimental Dinner was held at the Hotel Metropole, on Friday, June 19. Present:—

Maj.-General R. Pringle, C.B., D.S.O.

Colonels E. R. C. Butler, Sir F. Duck, K.C.B., K. Lees, J. Moore, A. E. Queripel, C. Rutherford, C.B., C.M.G., W. B. Walters, C.B.

Lieut.-Colonels A. E. Clarke, E. W. Larnder, W. A. McDougall, J. Reilly, R. Rowe, E. Taylor, W. R. Walker, H. T. Sawyer.

Majors E. B. Bartlett, G. Conder, W. B. Edwards, G. C. O. Fowler, J. J. Griffith, E. J. Lawson, E. E. Martin, A. G. Todd, G. M. Williams, F. W. Wilson.

Vet.-Major W. A. Pallin.

Captains E. P. Argyle, T. E. Burridge, W. J. Dale, L. L. Dixon, O. S. Fisher, H. E. Gibbs, A. Hodgkins, A. S. Lawrie, V. C. Leckie, T. Lishman, W. I. Macaulay, K. McL. McKenzie, R. W. Mellard, H. S. Mosley, J. S. Nimmo, F. C. O'Rorke, L. M. Verney, E. J. Wadley, H. C. Welch.

Lieutenants C. Davenport, J. R. Ellison, J. Smith, C. M. Stewart, G. Williamson, T. J. Davis.

Lieut. & Quartermaster T. E. Campey.

V. V. B. FUND—LONDON ORPHAN ASYLUM.

Through your courtesy may I inform the workers on behalf of Hilda Tait that she was duly elected to-day to the London Orphan Asylum, being 5th on the list of successful candidates. May I take this opportunity of thanking the many helpers in the profession who have secured this girl's election.

Only the hard work they have put into canvassing for this election could have secured these results.—Faithfully yours,

Southtown, Gt. Yarmouth.
June 22nd.

WM. SHIPLEY.

Personal.

Mr. J. MALCOLM ARMFIELD sails from Southampton in the Union Castle R.M.S. "Saxon," on the 27th inst., to take up duty on the Veterinary Staff of the British East Africa Company, at Livingstone, N. Rhodesia.

OBITUARY

FREDERICK JARVIS, M.R.C.V.S., Wimbledon.

Graduated, Lond: Dec., 1859.

Mr. Jarvis deceased on Thursday, 18th inst., from bronchitis, at the age of 81. He formerly practised in South Kensington, but retired in 1902. For a few years he resided at Bushey, Herts, and subsequently at Wimbledon.

VETERINARY RESEARCH.

Sir,

My attention has been called to your correspondence on the above subject especially in connection with the meeting of the Berks and Oxon Chamber of Agriculture which took place at Reading, and as there seems to be some misconception about it, perhaps you will allow me the privilege, seeing I was present, of stating a few facts with regard to it.

Although nominally an agricultural meeting it was certainly not a representative one as the medical men almost outnumbered the few farmers present. The majority obtained in favour of the resolution was only three, seven voting for it and four against.

The President was the mover of the resolution, and his friends were in full force, in fact it was a carefully organised attempt on the part of our leading medical pathologists to initiate a campaign with the ultimate object of obtaining control of veterinary research in this country.

The question of swine fever was only of secondary importance, and full use was made of the agitation against the regulations now in force. The arguments so ably put forward by Sir John M'Fadyean were almost unanswered.

Some of your correspondents suggest that those opposing the resolution wished to make a corner in veterinary research. May I say that during the whole discussion there was never a suggestion of such a thing. All broad-minded men will welcome any increase in knowledge which may be of benefit to agriculture and veterinary science, but, as a well-known farmer asked at the meeting—which, by the way, was not reported in the short *resumé* published in *The Times*—Why are medical men now so anxious to investigate animal diseases? Is it because of the funds which may in the near future be voted by Government for this purpose? This seems to me the whole pith of the matter. If there are only limited funds to be allotted to veterinary research are these to be given to Cambridge or some other University when our own schools are starving?

Although it was contended that Cambridge needed money yet the position of most of our veterinary colleges and research laboratories were ignored. It is lamentable that in a country where cattle are so valuable so little support is given to our institutions, and yet in spite of it they have done splendid work which compares most favourably with

work done in other places much more fully equipped. All our Colleges should have sufficient funds to properly equip their laboratories and to provide a larger staff of lecturers, so that those conducting research may have more time to devote to the work. Students could then be trained in laboratory technique, and if scholarships were given, as in every other branch of science, there would be plenty of men come forward to be trained as expert bacteriologists.

If I had thought that £1,000 placed in the hands of medical men would yield better results for agriculture than the same amount awarded to veterinarians I should not have voted against the resolution; but I am convinced, as are most of the leading agriculturists who have had experience, that the veterinary surgeon is the right man to advise on animal diseases.

Sir Clifford Allbutt, speaking of swine fever, says "the farmer, the veterinarian and the Government have had more than 30 years in which to contemplate this scourge, and with no better result than perpetual quarantine and slaughter," and goes on to say that the only way to put this right is to refer it to university research (not veterinary of course) and claims that it is only here—in a university—that one gets the proper "atmosphere" for scientific knowledge. Although disclaiming the intention of advertising any particular university, yet he states with delightful naïveté, that they have the proper accommodation at Cambridge for this work. It is significant that although there is usually such jealousy between the different universities, yet on this occasion representatives of Oxford, Cambridge and London Universities, also the Lister Institute, all combined and used their collective influence to obtain a favourable vote on the question.

We should expect support from our sister profession, and it is most disappointing to notice the antagonism shown. We might with equal fairness suggest, and I pointed this out at the meeting, that because, for example, cancer investigation has not yet resulted in any diminution of the disease and no cure has been obtained, it should be placed in the hands of veterinarians and we should be given the funds for the purpose. After listening to the learned professors one would think that all the diseases that human beings suffer from had been investigated and there was no more work to do. I might remind them that it is only within the last few years that any real advance has been made with the treatment of venereal diseases, and we are not so able to control or prevent them as Moses was in the case of the Children of Israel. Such common diseases as measles, scarlet fever, influenza and a dozen others all need investigating. It is another instance of "the mote in one's brother's eye and the beam in one's own."

I must apologise for the length of this letter, but I feel very strongly that unless we take our stand as a scientific profession and show more *esprit de corps* we shall be ousted from the position we are justly entitled to.—Yours faithfully,

GEO. P. MALE.

COLONIAL APPOINTMENTS.

Sir,

I note in *The Record* of April 25th, "S. Africa" complains of the small salary the Colonial Office gives to veterinary surgeons, yet he says he is married and lives on £500 a year. He must be a lucky man. Here a G.V.S., unmarried, cannot live on £450.

It is high time the salaries of these appointments were increased, for it is only misery to those who accept them.

When a man in England obtains a billet for £400 a year he thinks he will be able "to have a good time." But, alas, when he comes out to the Colonies he finds the cost of living at least three times as much as it is at home, and with only this small amount he is always in debt.

Before the applicant is given a colonial billet he must sign an agreement that he will hold the post for at least three years, no private practice being allowed. At the end of three years one has forgotten all one knew, so all hope of practising again at home has vanished, and the only way of earning any money is by retaining this post.

After three years one is put on the "permanent list"; with this privilege one has to pay 4 per cent. of one's

salary towards the widows and orphans fund—this means that we have to pay for the up-keep of other men's wives and children, as we cannot draw sufficient pay to get married ourselves. One does not come out to the tropics for the benefit of one's health, but one expects to get enough money to pay one's way. A man who has saved enough money at the end of four years to pay his passage home should consider himself very lucky.

The idea of having a pension may draw some people, but they should remember that they cannot draw this pension until they are 55. How many years is a man going to live after being in the tropics for twenty-five or thirty years?

These salaries would be increased if the profession would unite and boycott the Government until they offer a reasonable salary.

In the last *Record* (April 25th) there are only three men looking for billets, all the other advertisements are for men wanted to fill vacancies. This shows that there are plenty of billets to be obtained at home without going to the Colonies.

For those who wish to make money or want to get married, let experience teach them that they cannot do either out here with the salaries now offered. No salary should start at less than £500, and this to increase yearly by £20 to at least £750, not including allowances.

We expect to obtain some interest on the money and time spent at College, but assistants in firms, men who have paid nothing for their professional education draw about the same amount as we do on arrival, and can rise to partnerships and high salaries. They are given a first class passage home and out, and full pay when on leave. We are given a second class passage (the same as police inspectors) when we first come out, after that we have to find our own passage money.—Yours truly,

"ONE WHO HAS BEEN HAD."

[The following were unavoidably held over last week.]

NATIONAL ASSOCIATION OF VETERINARY INSPECTORS.

Sir,

In again asking for a small space in your columns it is not with the intention of prolonging a controversy calculated to weaken rather than strengthen the unity of our profession. In answering Mr. Spencer's letter I thought I had made it plain to any logical mind that the latter is my main object. It is to be regretted Mr. Spencer cannot see any difference between what "might have been said" and what was left "unsaid," this I attribute to his habit of reading and quoting parts of a sentence only. Jumping to conclusions on such weak premises is risky, generally erroneous and illogical, as it is in this case.

"Tact" could have suggested a wiser course to Mr. Spencer, viz., proof that the Society was still alive and opinions to the contrary premature by the immediate circulation of the long promised pamphlet whose non-appearance was apologised for some six months ago when the belated scale of fees was circulated, as it is he is thinning his own ranks.

However absurd as it may appear to Mr. Spencer, the fact remains that the publication of his scale of fees in *The Veterinary Record* levelled down our fees in Kent, not only for tubercular testing, but also for mallein testing and valuations, more than 33 per cent., absolute proof of which can be produced.—Yours very faithfully,

THO. C. TOOPER.

REDWATER IN CATTLE.

Sir,

Perhaps you might think it worth while giving space to enclosed cutting lest there may be some sleepy M.R.C.V.S. still unacquainted with the redwater subject.

The ignorant herds and wide awake druggists have reason to feel indebted to Mr. Ebbitt for spreading the light, and will boast of having discovered a nostrum for the destruction of the tick after they have read *The Irish Independent*.—Yours truly,

CORRESPONDENT.

"REDWATER IN CATTLE."

Sir,—The winter was mild, the ticks lived through it, and there is a scourge of redwater on lands that harbour the ticks. Every herd and local druggist have their own 'sure cure.' It does not often prove fatal (except in cows milking) if a saline purge is given at the commencement. The ignorance that prevails about its origin is shocking, especially in a live stock country like Ireland. I do not know who is to blame for such beliefs as they have.

The tick should be considered a disgrace and not a misfortune, when seen on cattle. Co. Meath has quite a number of cases, and I suppose other grass lands are affected. Under a Home Rule Parliament it should be weeded out of the country, for I know it can be done.

R. EBBITT, M.R.C.V.S.

Oldcastle, Co. Meath, June 6th, 1914."

Veterinary Societies—Addresses.

BORDER COUNTIES V.M.S.

Pres: Mr. J. W. Hewson, M.R.C.V.S., Wighton

Hon. Sec. (pro tem.): Mr. F. W. Garnett, M.R.C.V.S.,

Dalegarth, Windermere

Meetings, Second Friday of Feb., June, and October

GLASGOW V.M.S.

Pres. Principal McCall.

Hon. Sec. Mr. J. D. Fulton, 83 Buccleuch Street, Glasgow

ROYAL VETERINARY COLLEGE V.M.A.

Pres: Prof. E. Brayley Reynolds.

Hon. Sec: Mr. B. Gorton, M.R.C.V.S. Assist. Mr. E. E. Jelbart

ASSOCIATION OF VETERINARY OFFICERS OF HEALTH

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